The Education Digest

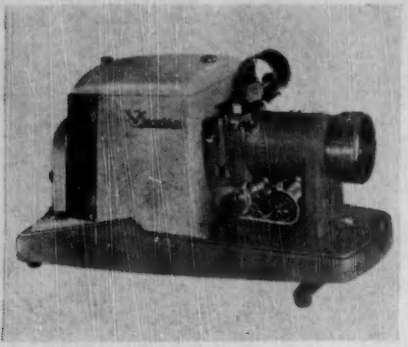
CONTENTS

The Lesson of Khrushchev's Little Red Schoolhouse	Esquire	1
Multigrade Teaching	The Nation's Schools	5
How to Secure Good Teachers	Seven Studies	8
Industry's Changing Needs for People and Skills	David H. Dawson	11
How a Bill Never Becomes a Law	B. P. Brodinsky	15
ABC's of Test Construction	NEA Journal	18
The Guy in the Shiny Pants	Phi Delta Kappan	21
Peer Acceptance of Gifted Children	Elementary School Journal	24
Automation and Education	New York State Education	27
We Microfilmed Our Student Records	School Management	30
She Made Mathematics Almost Flunk-Proof	National Parent-Teacher	32
Kind of School We Need Everywhere	Farm Journal	35
Phonics and Word Method	Education	38
Ten Years of Education in Israel	Jewish Education	41
Women Teacher's Attitudes toward Science	Elementary School Journal	44
Psychology of Individual Differences	Harvard Educational Review	47
With Education in Washington		52
Educational News		57
New Educational Materials		61

Volume XXIV October 1958 Number 2

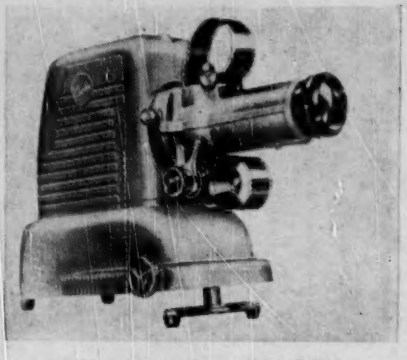
TIME-TESTED... TIME-PROVEN!

These Famous Viewlex Projectors Now Used In A-V Programs In Over 103,000 Schools



The Viewlex "V-500"

For 35mm filmstrip (single and double frame) and 2" x 2" or Bantam slides. Shows vertical and horizontal pictures, and accepts any type mount intermixed. Completely light-tight, this 500 watt projector is fan-cooled by a new refrigeration process. Automatic take-up reel, simple threading. Built-in optical enlarging pointer actually magnifies area of picture you wish to emphasize. Only $109.50 Including Case.



The Viewlex "V-22"

A combination 35mm filmstrip, 2" x 2" and Bantam slide projector. This 300 watt projector is motor-cooled by a special "Airjector" cooling system. Push-in threading mechanism and spring-loaded tilting device for added convenience. Easy to change from filmstrips to slides in seconds. Only $74.50 (Case optional extra).

GUARANTEED FOR LIFE BY VIEWLEX—Reports from many of the nation's leading educators and A-V directors affirm the fact that these projectors have provided the best service of all equipment in their schools. Find out how Viewlex Projectors can serve your school's visual education requirements. Priced from $50.25 to $495.00.

Write for Complete Viewlex Catalog today

Viewlex INC.

35-01 QUEENS BOULEVARD · LONG ISLAND CITY 1, NEW YORK

World's Largest Exclusive Manufacturer of Slide and Filmstrip Projectors

THE EDUCATION DIGEST

Copyright 1958 by Lawrence W. Prakken

Volume XXIV | October 1958 | Number 2

Let Us Be Grateful to the Russians

The Lesson of Khrushchev's Little Red Schoolhouse

Robert M. Hutchins

In Esquire

Robert M. Hutchins, former Chancellor of the University of Chicago, is President of the Fund for the Republic. Condensed from Esquire (*June* 1958), 84, 85–87. (Copyrighted 1958 by Esquire, Inc.)

On November 22, 1957, Rear Admiral H. G. Rickover, speaking in Detroit, said, "Rightly, Sputnik has from the first been seen as a triumph of Russian education." In the January, 1958, issue of *Foreign Affairs*, Robert Oppenheimer, director of the Institute of Advanced Study at Princeton, described the American educational system as a "half-empty mockery."

Both statements are true. How did it happen?

In every country of the world, except the United States, there is an incentive to serious learning. In Russia serious learning is the *only* road to success. In other European countries it is one of the main roads. In the United States it is irrelevant. A boy must graduate from high school in order to get into college. He must graduate from college in order to get into certain occupations. But he does not have to work in order to graduate from either. There is no reason to suppose that if he studied hard in high school and college he would be any more "successful" in later life than if he took his ease throughout his educational career.

Serious learning in the U. S. is deferred until the professional school. Many "Big Men on Campus" turn into students the moment they pass the portals of the graduate school. It is then that the prospective lawyer or doctor has an incentive for the first time. He knows now that his performance in school will directly affect his professional fortunes.

We do not take education seriously. We do not value those who are charged with the responsibili-

Published monthly, September through May, by THE EDUCATION DIGEST, 330 Thompson St., Ann Arbor, Mich. Second-class mail privileges authorized at Ann Arbor, Mich., and additional entry authorized at Oxford, Ind. Subscription, $5.00 a year.

ty for it. We pay them atrocious salaries. The whole faculties of many colleges could be bought for the annual income of a single General Motors executive. In other countries teachers may not get much money, but their prestige is high. Here they have about the position that nursemaids used to have. They are treated as second-class citizens when somebody like McCarthy goes on the rampage. Their social and political standing is on a par with their financial standing.

We talk a great deal about our dedication to education. And we do spend a lot of money on it. We actually spend a little more on our colleges and universities than we do on pari-mutuel betting, and that is a lot of money. We want our children to go through school and college. But we don't really care what they study, or whether they study at all. We want them to have the social advantages that educational institutions can supply. We want them to have the vocational opportunities that would be closed to them if they did not have diplomas and degrees.

American education is characterized by waste of money, waste of time, and waste of talent. Since we do not take education seriously, we do not try to figure out what it is. We confuse it with schooling and conclude that if we have everybody in school our responsibility is discharged and our task accomplished.

Now America's greatest contribution to democracy may well be the idea of education for all. We have set out to make it possible for everybody to develop his mind. But I deny absolutely that the waste of time, talent, and money that characterizes American education is the necessary consequence of the decision to open education to all.

The indubitable fact that people differ in native ability and in capacity to learn does not mean that an educational system that sets out to educate everybody must fail to educate anybody. It means that those who cannot or will not make a serious effort to learn or who, after making such an effort, cannot learn must drop out of the educational system and take to other forms of endeavor. There is no reason why a young man of 20 should be in college if he will not study. There is no reason why he should be there if in the years preceding he has demonstrated that he cannot profit by what education has to offer.

ONE THING CERTAIN

We can be certain of one thing, and that is that if it were understood that serious work was expected in our schools, colleges, and universities, if these institutions refused to admit students who did not work and refused to retain, promote, or graduate them, these actions alone would revolutionize the attitude of innumerable young people toward serious learning.

Much has been written and said of late—especially since Sputnik—regarding the superiority of Rus-

n education over what we call ducation in America. But let us forget about the Russians. If they did not exist, conditions in American education still would be shameful. Let us forget the demand for scientists and engineers. If we now had an adequate supply of practitioners in these fields the waste of talent in American schools would still be deplorable. Enrolment in subjects essential to the understanding of modern society and to the development of a people that knows where it is going in a scientific and technological age is shockingly low.

Now, let us assume that we *have* learned, at last, that our attention must be redirected into serious learning and that we should spend even more money on education, where is it going to come from? It cannot and should not come from the students and the parents of students. Education is a national problem. A national program of education is necessary because we are a nation. The federal government must emphasize the seriousness of education to us all, because it is the only government we all have.

The tradition that education is a local matter, with a certain amount of state supervision and support, must yield to the fact that it is a national concern. It is hard to remember that employment was once regarded as a local and state affair and that proposals to deal with unemployment on a national basis were denounced as un-American. After a long and bitter struggle the national responsibility for the employment of those willing and able to work was established by the National Employment Act.

Beardsley Ruml has proposed a National Education Act that would declare the national responsibility for the education of those able and willing to learn. His simple change of "employment" to "education," if adopted by Congress, would have sensational consequences; it would show that the representatives of the people took education seriously; it would provide the President with a council of educational advisers like the Council of Economic Advisers; it would require the President and the council to make an annual report on the state of education.

NO SHADOW OF CONTROL

A National Education Act would proclaim our national intentions. Federal appropriations would show that we meant business. If we are afraid that sooner or later federal control will accompany federal funds, we can find plenty of ways of providing federal money without a shadow of control over academic work.

Let me mention one. The G.I. Bill of Rights was the largest educational expenditure in the history of the race. Seventeen billion dollars went into it without any federal control beyond what was required to prevent the grosser forms of fraud. And federal scholarships and fellowships that allow the holder to attend the institution of his choice seem calculated to reduce

the current waste of talent without subjecting education to federal domination.

It must be said, however, that talk of federal domination is a cliché of the most thought-deadening variety. At the present time the state governments equalize educational opportunity within the states. The federal government must do the same within the nation. Local communities are now permitted to determine for themselves what their children shall do in school. Ordinarily the state prescribes minimum standards as a condition of receiving state aid. There is no reason why the federal taxpayer should pour money into schools that do not meet federal standards. A national program without national standards is almost a contradiction in terms.

As for the "remoteness" of Washington, the federal government is no more remote than most state boards of education are from most schools, and federal officials are likely to be more competent than those of the states. As an educational administrator in Illinois I would much rather have dealt with a Secretary of Education in Washington than with the Superintendent of Public Instruction in Springfield.

The elevation of the standards of education in the states is a national problem. The excessive attention to state pride that characterizes all discussion of federal participation in education will deprive us of many opportunities to improve education in the states. For example, it is proposed that any federal scholarships that are awarded be allocated among the states. It might be, however, that the best schools in some states were worse than the worst in others. At one time we found that all the pupils in one high school in Chicago had poorer academic possibilities than any pupil in another. Suppose that scholarships at the University of Chicago had been allocated among the high schools of the city. The awards would have been unjust, and the pressure that the University could exert through the award of scholarships toward the improvement of the poor high schools would have been eliminated. Federal scholarships awarded on the basis of a national competition *not* allocated among the states would result in the improvement of the schools, because states that found that their children were not getting scholarships would begin to wonder why and might do something about it.

We may be grateful to the Russians for reminding us that we must have serious learning in the United States. We would have to have it even if they were suddenly to vanish from the earth. We must have it in order to solve the great problems that confront us: how to make democracy work, how to survive in the thermo-nuclear age, and what to do with ourselves if we do survive. With the best education we may not be able to solve these problems. With anything less we are certain to fail. •

Three-Year Study Shows Value of

Multigrade Teaching

J. H. HULL

In The Nation's Schools

THE one-room school had something. In an experimental program in the unified school district of Torrance, California, we have been able to recapture that "something"—increasing the spread and speed of learning through a grouping of grades.

Our three-year study has dealt with the multigrade system, and the results indicate that under this type of organization more learning takes place than under the traditional system of single grades. In fact, in the three skill subjects scored in this experiment—reading, arithmetic, and language—multigrade learning clearly *exceeds* single-grade learning experiences insofar as can be measured by standardized test procedures available.

Our findings to date further show that, in addition to gains in these three skill subjects, the multigrade pupils in 46 out of 48 statistical comparisons showed greater gains in four areas: personal adjustment, social adjustment, social maturity, and behavior characteristics. In addition, the multigrade pupils have shown a better attitude toward their school work and toward their peers than have the single-grade pupils.

Beyond all this, observations in the Torrance study also indicate that there is a remarkable improvement in the quality of instruction and even in the creative personality of the teacher. What's good for the pupils seems to challenge and improve the teachers.

J. H. Hull is Superintendent of the Torrance Unified School District, Torrance, California. Reported from The Nation's Schools, *LXII (July* 1958), 33-37.

The originator of the study was Walter Rehwoldt, then director of instruction in Torrance. Dr. Rehwoldt and I—and Warren Hamilton, my collaborator—had many discussions over a period of a year on the approach we might take. We agreed on certain points for the protection and welfare of the school district. Welty LeFever of the Doctoral Committee of the University of Southern California advised on the design of the experiment.

We decided, of course, that the board must unanimously endorse the plan. We agreed that participation should be voluntary and planned for parent education. It so happened that only one parent meeting was required to establish a waiting list of those who wanted their children in a multigrade. We knew that the plan must have potential for improving instruction and for benefitting the children, and

that it must not lead to excessive costs. We knew also that the plan had to qualify under the existing written policies of the school system.

We were ready to begin the experiment at Walteria School in 1955-56. We formed seven classes in two multigrades, with each class consisting of approximately 33 children. The primary multigrade classes—four in all—contained 11 children from the first grade and the same number from Grades II and III. The intermediate multigrade classes—three in number—contained 11 children each from the fourth, fifth, and sixth grades. Teachers for the classes were drawn from a hat containing the names of all the teachers in the school system. Supervision was by the building principal and was the same as that afforded regular grade classes.

Last year, the second year of the establishment of the classes, parental demand was sufficient to provide for the forming of an eighth class.

This year, in February, the board approved a plan whereby several other Torrance schools now may carry on the multigrade class organization on a voluntary basis on the primary and intermediate levels, as is being done at Walteria School. Children will be placed in these classes only on the request of the parents.

Before this recent step toward extension of the plan was taken, I called a conference at which were present the principal and all teachers of multigrade classes at Walteria, and to which were invited several staff members and some of the elementary-school principals of the district. At this conference we asked these multigrade teachers and their principal: "What do you regard as the most important aspect of the multigrade program?" Here are a few of the replies:

"Individual differences get more attention in the multigrade setup."

"After three years as a multigrade primary teacher, I now have more materials to cover the spread of interests and abilities. I would probably teach a straight grade the same way now."

Another teacher said the multigrade plan results in a spread of activities that causes a lot of new learning on the part of every one. All the teachers thought it would be a mistake to drop the program, and most of them didn't know which straight grade they would want to teach after teaching a multigrade.

TESTS SHOW VALUE

As for the testing and tabulation of results which led to the statements made at the beginning of this article, a study of 18 tests given multigrade experimental and control groups in the three skill subjects of reading, arithmetic, and language showed clearly that multigrade learning exceeds single-grade learning experiences as far as they are measurable by the standardized tests that are available. But the

school district was not satisfied with these findings alone. So the board of education financed a comparative statistical study involving all six grade levels at six other randomly selected schools in the district. This required thousands of careful computations and again clearly showed the same trend that the matched pairs in the experiment produced, namely, that multigrade classroom organization did produce more learning as measured by the testing instruments, both by the area tested and by grade level of pupils.

This result was obtained with teachers drawn by lot from a regular school faculty, with teachers untrained for specific multigrade teaching, with teachers given no special supervision for multigrade teaching, with pupils unselected and very comparable to the other half of the enrolles.

We consider it significant that the one area in which single-grade learning equals multigrade learning is reading. This is the major area of emphasis in the minds of most school teachers. Reading is the area where grouping and individualized instruction is most highly developed. Reading is the area in which the technics that have been developed by most classroom teachers most nearly parallel the kind of instruction that naturally develops in a multigrade.

If there is any importance to timing in providing learning opportunities for children, it is not unreasonable to assume that helping children to develop their own rate and timing will produce better results than attempting to make children develop at a predetermined rate and timing, which is exactly what the typical graded school did try to do, in the past at least.

It is certain to be asked *why* these multigrade pupils have better attitudes, better social adjustment, and even tend to do better work in academic areas. Our study shows they do. But it does not tell us "why." But some of the factors that probably have an effect on these findings are:

1. Older children seem to gain from helping younger children.
2. Younger children seem to learn from older children.
3. Wider range of experiences and interests stimulates all.
4. Teacher attitude, when faced with three grades, seems to include a do-something-about-it attitude.
5. Peer rivalry may to some extent be replaced by friendly acceptance of differences when the grade level loses its significance through spread of ability.
6. Children gain the advantage of being in the younger, middle, and older groups on successive years rather than always having to view the situation from one position year after year.

In any case the over-all results indicate that there is something inherent in this plan of pupil grouping that educators should consider in organizing a school, in building faculty and parent attitudes, or in both. •

What Research Is Showing

How to Secure and Retain Good Teachers

CLYDE M. HILL

In Seven Studies

IN the first year of the Yale-Fairfield Study of Elementary Teaching (now in its third year) we sought the best answers we could get to three basic questions:

1. Why do not more young people qualify for teaching as a career?
2. Why do we lose so many trained teachers before the compulsory retirement age is reached?
3. What can be done to improve the recruitment and retention of good teachers?

Our research on these and some other closely related problems resulted in a 325-page report published last February. Only a few high spots can be touched here and I shall have to refer you to the report itself for documentation.

Many studies dealt with the question, "What influences the decision to become or not to become an elementary-school teacher?" To get answers to this question many liberal-arts seniors and experienced teachers were questioned. About 50 percent of the seniors said they had never considered teaching, but we learned that, among those who elect teaching as a career, 70 percent did so before high-school graduation. Desire to work with young people stands out prominently as the ranking reason for becoming an elementary-school teacher. Many of these young people had had "teaching-like" experiences with children, such as baby-sitting and care of children and serving as a leader in young peoples' groups.

Clyde M. Hill is Director of the Yale-Fairfield Study of Elementary Education, New Haven, Connecticut. Reported from Seven Studies; School Boards Examine Some Current Issues in Public Education, *a publication of the National School Boards Association, Inc., Chicago, Illinois, (April* 1958), 1–8.

Among the reasons assigned by college seniors who had decided against teaching as a career, the most significant factors were low salaries and the greater desirability of other types of employment. Near the top were the lack of opportunity for promotion and the drab nature of the tasks involved.

Certification requirements and the type of preparation demanded for meeting them operate somewhat to prevent students from deciding to teach. To many people they definitely reduce the attractiveness of teaching as a career.

To gather suggestions for the improvement of the attractiveness of the job of elementary teaching, both teachers in service and col-

lege seniors were questioned. Forty-eight percent of those persons suggested that the teacher should be relieved of some of the nonteaching duties involved, 23 percent suggested reducing the size of classes, and 19 percent suggested raising salaries. More materials to work with, better buildings, and more specialized help were suggested by others.

RELIEF WANTED

It was not possible to secure a valid ranking of the nonteaching duties from which teachers suggested relief. Some teachers referred generally to "clerical work," some to "secretarial work," some to "paper work," and some to "routine detail." Of course, in some replies specific reference was made to attending meetings, committee work, collecting money, making reports, playground, bus, and lunchroom supervision, etc. Sometimes the need for relief had only a self reference, the need for free time, being forced to do too much work at home, and being under too constant a pressure during the day without relief.

In our efforts through the Yale-Fairfield Study of Elementary Teaching to find why so many teachers leave the profession before compulsory retirement, we secured significant data from 10 representative states. While the patterns vary somewhat from state to state, it appears that the principal loss suffered by the teaching profession is to homemaking. In only one state is the loss to other kinds of work greater than it is to homemaking. Loss to other kinds of work seems to occur before preparation for teaching is undertaken rather than after.

The most significant fact we have found is that fully three-quarters of the young women teachers in the elementary schools hope to give up teaching, at least temporarily, in order to raise a family. Teachers who remain in teaching to the age of 35 are likely to continue teaching for 20 years or more.

It would seem from this that the recruitment and training of teachers in the 30-35 age group would be a good investment. Since homemaking is already the chief competitor of teaching for the services of young women and since there is a trend toward earlier marriage, this challenge to the staffing of our schools is one which should receive immediate and competent consideration.

GUIDES TO HELP

In a very sketchy, but I hope practical, manner I have directed your attention to some of the down-to-earth conditions learned through our studies which give rise to the crisis in staffing our schools. But we have also learned some ways in which we can be guided in improving the recruitment and retention of good teachers for our schools. We know, for example—as mentioned earlier—that the decision to teach or not to teach is made early in the high-school years and that students who have had teaching-like experi-

ences with children are most likely to choose teaching as a career. We know that many high-school graduates eager to prepare for teaching find it impossible to finance four years of college work. We know that the really professional and social-service aspects of teaching make a strong appeal to competent young people but that the more mechanical time-consuming nonteaching duties act as positive deterrents to the selection of teaching as a career, and to the retention of teachers in service.

We know that young people heartily believe in and are eager to meet high standards of teacher preparation, although they are increasingly impatient with the forced accumulation of credits in treadmill courses of dubious relationship to the perfection of classroom practice. Yet they believe in realistic certification requirements for the protection of children.

We know that while many of our best trained teachers are lost to homemaking we recognize that this loss is one which need not be permanent. We know that there are thousands of young mothers who have had substantial college courses without professional aim who are eager to be fully qualified for full-time teaching when their families are far enough along to permit them to be away from home. If they are able to pursue professional study on a limited basis for a period of years and accept teaching assignments, they are likely to remain in teaching for many years.

If we can get good answers to questions arising from these facts which research reveals, we can make progress toward discovering how to secure and retain good teachers for our schools. We are at present experimenting in Fairfield with some of the proposed solutions to these very problems. As for example:

1. In the early years of high school, how can we motivate more students to select teaching as a career?

2. How can elementary teaching be made more attractive?

3. What can be done to put teachers' salaries on a really competitive basis?

4. How can we provide opportunities for promotion and recognition of exceptional teaching talent so as to interest our best teachers in remaining in teaching?

5. How can we keep alive the interests and professional status of teachers who leave the profession for matrimony so they can easily be recalled to teaching later? •

ONLY drastic improvements in the training and treatment of our teachers will cure America's "ailing schools." Inadequate recognition of superior teachers, even more than low salaries, is responsible for the nation-wide teacher shortage.—*Joel H. Hildebrand,* University of California.

We Dare Not Be Static

Industry's Changing Needs for People and Skills

DAVID H. DAWSON

THE sudden advent of Sputnik seems for the first time to have focused the attention of the American people on the phenomenal advances in the scientific and industrial world. Actually, this is but one of the new horizons that have been opening up at an increasing pace during the past two decades.

The major impact occurred during World War II when our industrial machine was suddenly called on to produce both materials of war in an air age and the indispensable goods of peace, and at rates which only shortly before would have been regarded as unattainable. The great technological advances which were then accomplished required better trained and educated workers and greater numbers of highly skilled and specialized workers.

We can hardly expect to see the time when there is no longer a demand for unskilled labor in this country. But there is no doubting that the demand for unskilled labor is today far less than it was even a decade ago, and that the need at the end of the war was itself far less than in 1939. This trend is inevitably going to continue.

The challenge thereby presented to our educational system is obvious. It does not come wholly from industry. Government's demands for skills are expanding comparably. In the field of medicine we are requiring more intensive and more advanced scientific training for the physicians of tomorrow. Our educational machinery itself must have better trained and more skillful teachers and staff people. Because my own experience has been largely limited to the industrial world, I shall concern myself here with industry's requirements of the people who make it function.

David H. Dawson is Vice-President and Director of E. I. duPont de Nemours & Company. Reported from a speech given at the National Congress of Parents and Teachers at Omaha, Nebraska, May 19, 1958.

Modern industry represents a challenging world—one in which an educational system dares not be static. An adequate educational system must be flexible—capable of modifying its procedures and, hopefully, its results, to meet the new needs of the world of tomorrow.

The public press has contained so much recently of the need for larger numbers of scientists and engineers in the industrial world that it needs no further emphasis here. If anything, perhaps it needs de-

emphasis—not because the need will not exist, but because there is some danger that, in attempting to meet the need, we may throw out of balance our educational and training programs by failure to meet the growing requirements for skills in other fields. Certainly, the need for increased production and highly trained engineers and scientists seems of no greater concern than the elevation of the basic level of understanding in such areas for all the people needed by industry.

From the broadest point of view, the industrial world today and in the future needs, and will need, fewer people with limited abilities to do—whether they have only the minimum physical ability required to dig a ditch or the higher order of skill required to assemble a watch. Increasingly, we will need more people with ability to observe, to understand, to analyze, and to solve problems, and to report and make clear the results and consequences of their solutions.

This may seem to you to overemphasize industry's requirements in their people for the ability to perform their daily tasks, and to underemphasize the broader problems of living in this complex and uncertain world. Any overemphasis is not intended, for certainly industry is well aware that its workers are spending less than 25 percent of their time at their tasks, and that any educational system which fails to provide for the remaining and more important aspects of living surely is failing to meet our reasonable requirements. Increasingly, leisure is more available. Our people work less hours, have longer vacations, have more holidays. Increasingly, the work which we have for them involves less physical and greater mental fatigue. Increasingly, we are seeking from our people a lifetime of service because of the training we are required to give them. All these factors point to the need that our educational system should produce well-rounded people, with a sufficient variety of interests to employ profitably their new leisure, and to adjust quickly to the growing complexities of the world in which we live.

Not all of us will be setting up problems for computers, or conducting the count-down on missiles, or running or servicing machines.

There are, and there will be in the future, those who serve by standing and waiting. But even here the standards are going to go up to a significant degree. These standards must go up for the reason that our development in the future is going to demand a degree of understanding and support beyond anything previously known. Without such understanding, there cannot exist the climate essential to the successful functioning of our free enterprise, democratic system. And that understanding can hardly be achieved without more effective educational procedure capable of adaptability to the more mediocre as well as the more able minds it attempts to train.

With such demands before us,

the question of how the needs can best be met in the educational process is one in which educational experts, and not industrialists or physical scientists, should speak. I therefore state my own views with some hesitation and the qualification that they may perforce be one-sided.

I think it is certain that the industrial world of today and of the future is going to require, increasingly, a basic knowledge of mathematics and the physical sciences. This is important not only for the frequently stressed encouragement of embryo scientists and engineers. It is even more important because the world of the future, from the microcosm of the atom to future space travel, will need such basic knowledge in order that our people can understand it and properly control it.

MORE DEMANDING SUBJECTS

This may seem to argue for the incorporation in our school curriculums of an increasing proportion of subjects generally thought of as intellectually more demanding—not only mathematics and the physical sciences, but languages and the more developed social sciences. We believe that it should and it must so argue—that the growing complexities of our physical world are indeed difficult of understanding, and will be controlled and mastered only if our schools present at an early age comparable difficulties. It must be granted, of course, that there will continue to be students who are unable or unwilling to grasp the more difficult things, and that provision must be made to prepare them, as best we can, for proper adjustment to a difficult world.

And this leads to another concept, that it seems increasingly important that our educational system be capable of accommodating itself to the inherent differences in understanding, and the speed of understanding, of individuals. A system must be devised to keep all individuals learning at close to their maximum speed, and to avoid, at all costs, any tendency to slow the faster minds, even to a minor extent. Our problems of today and of the future are such that we cannot afford to waste our available brainpower through any educational system which does not train it at the fastest rate which it is capable.

The problems and difficulties are many and manifest. Such a system would place an increasing burden on our teachers, and doubtless increase our educational costs by requiring that higher salaries be paid in order to encourage the more able teachers to continue in the profession. It would require greater flexibility in curriculum selection and in administration. It might involve smaller classes, different standards for promotion and graduation, perhaps even a higher proportion of specialized schools. Difficult though these problems may be, they hardly seem insuperable, and the stakes are high.

To accomplish these goals, I sub-

mit that the educational system should also be kept competitive. The fastest rate of learning will not be developed without proper motivation, and certainly one effective means of stimulation is to maintain competition between individuals. I dare say that this has been the subject of frequent debate in meetings of parents and teachers. I can add little to the arguments of the proponents except to say that in addition to the basic advantages, active academic competition also should serve to prepare individuals better for the competitive world which they eventually must face.

The tasks which confront your schools today are obviously far broader than technology, mathematics, and the physical sciences on which I have placed emphasis here. The social sciences and humanities will continue to be important and essential in enabling the individual to adjust himself to a world capable of destroying itself.

A PARADOX

There remains a paradox in our approach to this new world. Increasingly, we hear that we are being forced to conform to the thinking of the group at the sacrifice of our own individualities. But what we need is not a generation of conformists. Rather, we need a generation of men and women who are able to think independently, and who have the will to think independently.

Men and women in industry are, for the most part, engaged in group enterprises, and teamwork is essential. But effective teamwork will not be achieved by the surrender of one's own personality, nor does it eliminate the value of, and the necessity for, the individual who works best alone.

The whole spirit of the future will require that men and women resist anyone who tries to force them into a mold, no matter whether a government bureaucrat, a business executive, or a teacher attempts the forcing. Industry will continue to have as its greatest need men and women who can and do think for themselves, who can be depended on to act without instructions from another.

This is not incompatible with effective teamwork. Rather, it is essential to it. The life of any individual involves many compromises between his own desires and the good of his fellows. It is not unreasonable to believe that, if he properly understands himself and the society and groups in which he lives and works, he can contribute most to the general good by the retention of his own individuality.

If our educational system does not develop such persons we are in trouble, for we can be sure of this: Technological superiority alone will not determine the winner of the conflicts which promise to abound in the world of the future. They can be won only by a nation of free men, free to think for themselves, encouraged to think for themselves, and trained to think for themselves. •

Gored, Torn to Shreds, and Kissed to Death

How a Bill Never Becomes a Law

B. P. Brodinsky

WHEN we were in school we used to learn how a bill becomes a law. You probably remember those neat charts, the flow of the bill from the time it is dropped into the hopper to the time it is signed by a President.

Today, my topic is "How a Bill Never Becomes a Law." And as an illustration I'm going to use federal aid to education.

For more than 30 years, someone in Congress has been trying to push through a federal aid-to-education bill. Four presidents have asked for it—Hoover, Roosevelt, Truman, and Eisenhower. National political conventions—Republican and Democrat—have endorsed it a dozen times. I estimate that a parade of 10,000 witnesses, experts in their field, have appeared before Congressional committees during the past 30 years to testify for and against federal aid. Think of the millions of words! Each Congress since 1928 has had, not one but several, bills on the subject of federal aid. Nothing has happened because powerful committees did not want anything to happen.

Please don't assume that federal dollars haven't been used for education. Indeed they have. Each year hundreds of millions of federal dollars go for education—for vocational education, for school lunches, for veterans education, for Fulbright scholarships, to name but a few. The sums that go into some of these programs are enormous. But they all miss the main point. They do not reach the vast majority of children. They do not reach them where it counts—through the medium of better teachers and better school facilities.

B. P. Brodinsky is Editor-in-Chief of the Arthur C. Croft Publications, New London, Connecticut. Reported from a talk given by Mr. Brodinsky before the Kiwanis Club of New London, Connecticut, (May 28, 1958).

All of these programs are narrow and specialized. They are for special purposes and for special groups. We need something more than that today. The bills I am talking about—those that never become law—are those in which the federal government, through its control of the wealth of all the people and through its taxes on all the income, finds appropriate ways to return a portion of this revenue to the state authorities to be used for education—all of education, all of the children, all of the curriculum.

It is bills of this kind that year after year, with monotonous regularity, march to death. The yearly story goes something like this:

It is January, the bright begin-

ning of a new year—any new year; Congress is about to meet. The legislative slate is clean. Bango! Someone introduces a bill calling for federal aid. It isn't a spontaneous thing, of course. Months and weeks before, school people and lobbyists, legislators and laymen, have been at work, writing drafts, checking, clearing, getting reactions to this or that clause.

But writing a bill is simple compared to the job of getting something done about it. Any congressman can introduce a bill and have it sent to a committee. That's usually the end of it. Newspaper reporters have a phrase for such results. "The bill is gathering dust in a committee pigeon hole." Tons of dust have indeed fallen on federal aid-to-education bills in thousands of pigeon holes.

DOWN THE DRAIN

But more than dust-gathering has been the fate of education bills during the past generation. They have been kicked around from subcommittee to committee, from committee to House floor, from House floor to Senate floor—and eventually down the drain.

Every possible legislative maneuver has been used to strangle, emasculate, garrote, boobytrap, stab in the back, bleed to death, or blow to pieces federal-aid bills. They have been bludgeoned, trampled, gored, torn to shreds, and kissed to death. Both political parties have been guilty of this legislation mayhem and very often the *coup de grace* has been administered by the White House. Years of legislative effort have been wiped out by one telephone call by the executive office of the President to Capitol Hill, or the other way around.

So it has been over these past years. Congress has consistently said "no" to long-range and basic legislation. But that is just what we need—if our schools are to be revitalized, improved, and set to the task of educating productive, thinking, active Americans for the long pull ahead.

CONGRESSMEN'S VIEWS

To prepare for this talk, I wrote to a number of Connecticut members of the Congress in Washington asking this question: *Do you favor or oppose, in principle, federal aid to education?* I will admit that my question was not specific. I meant federal aid to education in its unrestricted form; or as a second best, federal aid for teacher salaries and school construction—the only forms of aid which can have any meaning for school districts. I received courteous replies. Perhaps they are typical. Let me quote a sentence or two from several of them and let me comment on these through the medium of an open post card. One senator writes:

"I have protested the federal aid-to-education bills . . . I have emphatically stated that not only need —but inability to meet that need—at the state level should be demonstrated before consideration be given to federal aid to education.

However, during all the hearings of the Senate Labor and Public Welfare Committee, of which I am a member . . . no single state was able to demonstrate inability to meet the need."

My open post card:

"I am not quite certain, Sir, what you mean by 'need.' It is common knowledge that we desperately need more engineers, more physicists, more research men, mathematicians, librarians, teachers. We need more and better technicians for 500 industries including electronics, rocketry, atomic energy. We need more people trained in road building, lumbering, the arts. In short, Sir, we need a new generation of highly skilled technological personnel. We need citizens with fiery zeal for democracy.

"The schools as they are presently financed can teach our children how to read, write, and 'figger.' But they do not have—they need—the resources to develop the modern man, able to manage the age of automation and to understand the deep-seated problems of today."

A congressman writes: "I might support assistance to states on the basis of loans for school construction. I may favor aid to states on the basis of per capita child attendance, but I am opposed to federal intervention with the actual construction or control over any of the curriculum of a school . . . I am opposed to expanding federal encroachment into purely state and local matters, and education like many other projects is purely a local matter."

My open post card:

"Sir, raising wheat and corn is also a local matter. Congress provides support for that activity . . . Need I say more?"

One congressman telegraphed me: "I favor aid for school construction and I have an open mind on federal aid for teacher salaries."

My open post card:

"Sir, yours is a forthright reply. May I hope that your open mind will lead to open-hearted action."

DON'T BE FOOLED

Looking ahead, I am sure I am safe in saying that Congress will not enact legislation this year designed to give any practical help to American education. We may get some kind of a token bill, calling for a few scholarships and a few dollars to state departments of education to hire math and science supervisors, and other activities such as guidance.

And whatever is approved—if anything is approved—will probably be advertised as a "momentous advance in American education." Please do not be fooled by such news stories, should you happen to read them after Congress has adjourned. The American public schools do not need a few paltry dollars from Congress. American schools need a national policy for the support of public education. Such a policy can only be written in Congress. Such a policy is not being written today. •

1958

Don't Make Test Items Too Easy

ABC's of Test Construction

JULIAN C. STANLEY

In NEA Journal

CONSTRUCTING a good test is one of the teacher's most difficult duties. Good tests do not just happen. Actual test construction, therefore, requires much thought and careful planning.

A well-planned test will provide the means for evaluating progress toward the expected outcomes of instruction, as expressed in the educational philosophy of the particular school and as defined in the objectives of the particular course. If the school hopes to produce "good citizens" with "integrated personalities," for example, tests must measure the development of good school attitudes and a widening range of significant interests.

For any given course, instructional objectives must be expressed in terms of the specific changes in pupil behavior or growth which the teacher hopes to bring about. A teacher, for instance, should be conscious that such an objective as the development of an appreciation of literature may express itself in various forms of student reaction. He sets out then to phrase test questions which will determine whether a particular piece of writing gave individual students a sense of satisfaction and enthusiasm, made them want to read more by the same author, stimulated their own creative expression.

Julian C. Stanley is Professor of Education, University of Wisconsin, Madison. *Reported from* NEA Journal, *XLVII* (*April* 1958), 224–26.

The well-planned test will reflect the relative amount of emphasis each objective has received in the actual teaching of the course. The same test might not be equally valid for two teachers of general science if one has emphasized the memorizing of isolated facts, while the other was more concerned with the interrelation of facts. Each teacher would be helped by drawing up in outline form a kind of table of specifications to indicate not only the objectives of the course, but also the relative amount of time spent on each.

The well-planned test must be designed to accomplish the purpose it is to serve. If the purpose is to give the basis for school marks or classification, it will attempt to rank the pupils in order of their total achievement. But if the purpose is diagnosis, its value will depend on its ability to reveal specific weaknesses in the achievement of individual pupils.

Diagnostic tests would cover a limited scope, but in much greater detail than a test of general

achievement, and would be arranged to give scores on the separate parts. The ranges of difficulty of items is relatively less important, also, in diagnostic tests. This is true, too, of mastery tests administered at the end of a teaching unit to see whether minimum essentials have been achieved.

The well-planned test will also fit the conditions under which it is to be administered, such as the time available for testing, facilities for duplicating the test copies, and cost of materials, as well as the age and experience of the pupils being tested.

HELPFUL SUGGESTIONS

In the actual construction of a test, these suggestions have been helpful:

1. Prepare a rough draft of the test as soon as possible. Many teachers jot down items day by day for possible inclusion to help ensure that no important points will be omitted, particularly those appearing in supplementary materials that might be overlooked if the textbook itself is the chief basis of the test.

2. Do not make the test items too easy. Many teacher-constructed tests fail to make the items difficult enough. This, no doubt, is due in part to the influence of the "70 percent should be the passing grade" tradition. However, the test that is too easy is not an efficient instrument for measuring pupil progress.

3. Include more items in the first draft than will be needed in the final form. This will permit culling out of weak items and those not needed to produce proper balance.

4. Subject the test to critical revision some time after it is drafted by checking items against the table of specifications to see if they show the desired emphasis on various topics. If tests are submitted for criticism to other teachers of the subject, points of doubtful importance can be weeded out and ambiguous wording corrected.

5. Include more than one type of item in the test. A variety of test types is more interesting to students. The test situation may also require that three or four forms of objective items be used, or that these be combined with discussion or essay-type questions.

GROUP LIKE ITEMS

6. Place all items of one kind together in the test. Sometimes completion, true-false, and multiple-choice questions are thrown together in random order. This arrangement is rarely, if ever, desirable. When like items are grouped, the pupil can take full advantage of the mind-set imposed by a particular form, and the teacher will find scoring and interpretation of scores easier.

7. Arrange test items in an ascending order of difficulty. The placing of very difficult items at the beginning is likely to produce needless discouragement for the average or below average student.

8. Avoid a regular sequence in the pattern of responses. If items are arranged alternately true and false, or two true and two false, pupils are likely to catch on and answer correctly without considering the content of the item at all.

9. Make directions to the pupil clear, concise, and complete. Instructions should be so clear that the weakest pupil knows what he is expected to do, though he may be unable to do it.

It is better to tell young children to "draw a line under" than to "underline." In lower grades, teachers find it helpful to read instructions aloud while the class follows silently the written instructions. If the form of the test is unfamiliar or complicated, a generous use of samples correctly marked, or practice tests, is recommended.

Regardless of how carefully a test is planned and edited, it is impossible to know solely by inspection exactly how good it is, or which are the weak items. If possible, therefore, the test should be given some advance tryout which will approximate the conditions under which the real test will be given, show the actual length of time it will require, and indicate what scoring difficulties may result.

ESSAY VS. OBJECTIVE

The majority of teachers, especially at the high-school level, use a combination of essay and objective questions. It has been said of the essay test by some authorities that it calls forth less than half the knowledge the average pupil possesses on a subject compared with the results from an objective test, and takes twice the time to do it; that it overrates the importance of knowing how to say a thing and underrates the importance of having something to say; and that the score resulting from an essay test depends more on *who* reads it and *when* than on the student who wrote it.

Despite such harsh criticism, essay tests do have unique advantages in certain subjects and they have at least one general merit. When pupils expect the test to be of this type, in whole or in part, they seem more likely to employ such desirable study techniques as outlining and summarizing, and to make a greater effort to recognize trends and relationships.

Despite popular opinion to the contrary, a high-quality essay test is more difficult to construct than is a good objective test. The construction of satisfactory objective tests, however, is far from easy even though not so difficult to score.

Since most of the tests used in classrooms are teacher-made, it is highly important that teachers give considerable attention to the form and content of tests. Teachers can develop proficiency in the building of tests by discriminating use of what is now known about testing, by keeping themselves informed on new studies of testing techniques and methods, and by careful evaluation of their own testing daily. •

Men in Education

The Guy in the Shiny Pants

DAVID H. BARNES and SAM M. LAMBERT

In Phi Delta Kappan

THIS man is an anomaly. The accent's on his youth. In his 26-to-35 age bracket, he outnumbers the schoolmarms as he teaches math, science, social studies, or industrial arts in the public high schools. Almost one-half of all men teachers are in this age group. Less than 25 percent of the total male labor force is.

Add the fact that he is a father, home owner, solid member of his community. With his more than five years of college education, he struggles to meet his family, professional, and community responsibilities. The spending unit of which he is a member has a fancy $5509 income each year.

Where did this man come from? What is he like? How is he doing? Where is he going? What are his aspirations in this diminishing century?

In the absolute sense, nobody knows, of course. The male teaching corps of the public schools contains some 320,000 splendidly unique individuals. Each has his private story. Each is hammering out his own mode of coping with reality and achieving salvation.

Relatively speaking, though, a reasonably accurate depiction has emerged. NEA Research Division's studies bolster up some abstracts and furnish coordinates for a smoothed curve of the real and precise way of life for individual men teachers in 1955-56.

David H. Barnes is Research Associate in The National Education Association's Research Division, and Sam M. Lambert is Director of the Division. *Reported from* Phi Delta Kappan, *XXXIX (June* 1958), 398–401.

This young man, is "upward mobile." He's had to be. There is a one-out-of-four chance that he was born on a farm, and a better than even chance that his father was a farmer, laborer, or sales person. These origins may be a factor in his occupational choice. Teaching is the poor man's profession *par excellence*. And the more accessible and cheaper state teachers colleges and universities are a handy adjunct to his ambitions. Overwhelmingly he is a straight-through product of public education.

Having made the decision to go into teaching, and while acquiring five, six, or more years of college education, he probably got married. For we do know this: Today three out of five men have wives when they start to teach. And this started him on the way toward his statistical 1.8 children. These children are almost certainly under 18 and there's a one-out-of-three chance that both one and point

eight of them are under six years.

Almost five of his eight years of teaching have been in the school where he now is—a high school in a community of 10,000 or over. If there's been a break in this teaching—a one-out-of-five possibility—it's been for military service, other employment, or further study. And in that order. Further study is now most probable. His highest degree was taken six years ago.

This secondary school is one spot in public education where, in a sense, he holds his own with the women. Behold, he is 49.5 percent of the faculty! Yet there are more than the usual differences in sex cultures. It is likely that he is about 35, married, and a father. The gal across the hall is single and over 41.

He is almost certain to be a full-time teacher in just one subject field as a member of a faculty of from 13 to 50. The chances are about even that it will be science, math, social studies, or industrial arts. (Does this further confirm science as a solely male discipline?)

This male teacher's school day incorporates a host of those extra-classroom jobs. Monitorial duties, individual work with students and parents, sponsoring student organizations, and professional inservice activities take the big time-bite. He is likely to belong to local, state, and national professional organizations as well as organizations in his particular subject-matter field.

Every teacher has a life outside of his schoolroom, his school, his own advancement, and that of his profession. At the end of most school days, our prototype drives his car about five miles to home and family—both within his school community. What do we find there?

He owns the house—in the contemporary sense of owning (the same is probably true of the car)—and the price tag on it is an explicit median $12,973. (What does this buy today in comfort, convenience, room for an expanding family, and professional status?) Within this house resides the family unit. It is already established that our educator has these 1.8 children. It is not established that his total dependency load is thus restricted. Almost half of his peers have two, three, four, or more full dependents.

PART-TIME SALESMAN

And while the spending unit of which he is a member has that staggering $5509 (the median for all women teachers with their .9 children is $5958—and their husbands are more than 80 percent full-time employed), his teaching salary is only $4374. This means salary supplementation, and supplement he does. He teaches in the evenings, or in summer, or he just plain manual labors. Or he takes a sales job. He may peddle vacuum cleaners or sewing machines. In many teacher families the wife works, often full-time.

This teacher is solidly planted in his community and "socially accepted." But this means involve-

ment in three, four, or more community groups—lodges, business, and professional coteries, and religious, social, and youth-building organizations.

At the end of his fiscal year this teacher has a short-term consumer debt of $351. How in the world does he manage to manage? If you asked him, he'd say it was a toss-up as to whether he is better off than he was a year ago or just about the same. Anyway, he still has his health. The chances are that he didn't miss a single day of work last year.

This, then, is a picture of the typical male public-school teacher—that young, married father teaching in an urban high school. There are, of course, some male teachers in the elementary schools, but the male elementary-school teacher constitutes less than 13 percent of his faculty, on the average. It has been asked: "Do these teachers take positions in the elementary schools because of the relatively greater chances of advancement into administrative positions?" No solid answering evidence is at hand.

But, by and large, it still has to be said that the man teacher sees himself in a high-school faculty. But whether it be urban, rural, elementary, secondary, or the inherent permutations of these four factors, a teacher's work is an important part of his way of life. Frequently it becomes a way of life in itself. If so, what will its quality be for him?

Donald Super has outlined the four basic satisfactions that a man must get from his job if it is to be a good job for him. Paraphrased, they look like this: There must be a reasonable amount of money. The position must bring prestige, as the job-holder sees it. There must be good feelings about co-workers. ("The esteem of our comrades is the foundation of power.") And the exercise of the activity must in itself bring satisfaction.

The man in the gray flannel suit assessed his lot and saw himself trapped with confirmed desperation in a madly competitive world.

The guy in the shiny pants? These are the clues: First, he plans to be teaching the next year exactly where he is. Next, he has already established a pattern of continuing his education. (What other profession has such a "work-experience" program for its members?) Then—and now that he's in it—he plans to continue teaching until he retires. And, finally, if he had to go back and do it all over again, would he? Yes, probably so. •

STUDIES made by the Division of Teacher Education, New York City, show that men teachers who are graduates of New York City Colleges do not leave the profession for better paying jobs when they assume family responsibility. The rate at which married and unmarried men leave the profession is virtually the same.

1958

Is Popularity Enough?

Peer Acceptance of Highly Gifted Children in Elementary School

JAMES J. GALLAGHER

In The Elementary School Journal

THE variables associated with peer acceptance and rejection have been the subject of considerable investigation over the past few years. In a recent review of literature reported by Gardner Lindzey and E. F. Borgatta in *Handbook of Social Psychology*, it was concluded that intelligence is positively related to social acceptance along with such variables as proximity in the classroom, socio-economic status, and membership in religious and ethnic groups.

But do these findings hold for all levels of intellectual ability? Is there possibly a point high on the intellectual scale where the difference between the gifted and the average child becomes too great for peer acceptance or social interaction?

In a study, which was part of a larger research program on the adjustment of gifted children in elementary-school classrooms, some possible answers were found. The subjects in the study were 54 gifted children in Grades II through V in a midwestern community, where a large state university contributed materially to a population of less than 100,000. The study was designed to answer three questions: How socially accepted are highly gifted children in the elementary-school classroom? What is the intellectual level of the children whom they choose as friends? What is the intellectual level of children who choose gifted children for friends?

James J. Gallagher is Associate Professor in the Institute for Research on Exceptional Children at the University of Illinois, Urbana. *Reported from* The Elementary School Journal, *LVIII* (*May* 1958), 465–70.

Teacher referrals and results of group tests were used to identify potentially gifted children in Grades II through V and these children were given the Stanford-Binet intelligence test, Form L. Group tests given earlier had indicated a high intellectual average for the school population under study. It was therefore thought wise to set up a high criterion for this study group. The criterion of an intelligence quotient of 150 was chosen in order to identify more clearly the possible problems created by extremely high intellectual ability. Each pupil in the class where a highly gifted child was found was asked to "Write the names of the five people in the class who you feel are your best

friends. Write your very best friend's name first."

GIFTED ARE POPULAR

Analysis of the tables prepared during the study indicates the high popularity of the gifted children in this sample. Fifty-two percent of the group were in the top quarter of their class in terms of social choice, while only 11 percent were in the lowest quarter of their class. This high level of acceptance was not affected significantly by the sex or the grade level of the child.

Although there was no reason to believe that sex might be a determining factor, there was some expectation that the gifted child might have more and more problems of social acceptance as he moved into the higher grades. Difficulties, it was thought, might be prompted by increasing individual differences between the gifted and the average pupil. The group in the intermediate grades, however, received as much peer acceptance as did the group in the primary grades.

The six children who rated lowest in social acceptance among the gifted children were studied further. Three of these, it was learned, were children who felt superior to their classmates and from time to time had rejected their requests for help. A fourth, while described as popular by his teacher, may have received few choices because he was new in the class. The two other children in this group could be described as immature and withdrawn. One of them was having considerable trouble with his teacher. Apparently the qualities that make a child of average ability unpopular can also prove a hindrance to a highly gifted child.

It has been suggested that highly gifted children would be more attracted to children of high intelligence. Therefore, there would be a difference between the intelligence of children choosing the gifted child for a friend and the intelligence of children who did not choose the gifted child as a friend. No support for this hypothesis was found at any grade level. Gifted children were chosen by children of all levels of intellectual ability.

It has been suggested, also, that gifted children would be attracted to children of high ability. Therefore, the intelligence of children chosen by the gifted child would be higher than the intelligence of the children not chosen by the gifted child. Again the findings do not bear out this expectation. In Grades II, III, and V there was a slight but statistically insignificant tendency for gifted children to choose children who rated above the class average in intelligence. In Grade IV even this slight trend was reversed.

This result suggests that the gifted child is not concerned or unduly influenced in his choice of friends by their intellectual ability, nor is he chosen by other bright children more frequently than by classmates of average or below-average ability. The writer's previous research in

this community suggests that more important than intelligence in the choice of friends may be the distance between children's homes. The nearer one child lives to another, the better is his chance of being chosen as a friend.

According to results of previous studies by Hollingworth and Terman, children with the highest intelligence quotients should have had more problems of social acceptance. In this study there did seem to be—among the few who scored above 165—a trend in that direction.

This study of peer acceptance of highly gifted children seemed to indicate that, as a group, they were highly popular with their classmates. Far from isolating themselves in social cliques with other bright classmates, the gifted children extended their own friendships throughout the entire intellectual range in their classroom. On the other hand, children of all levels of intellectual ability valued the gifted as friends.

The study suggests that high intellectual ability seems to be related to high social popularity. However, intelligence is only one factor in social choice. Other variables, such as sex, type of school attended, or grade placement also influence friendships, though in this study they did not significantly alter the favorable peer acceptance of this group.

More research is needed on friendships of gifted children. Many questions remain unanswered. For example, are the favorable findings of this study maintained in junior- and senior-high school? Or do widening differences in interests produce differences in choices?

The findings of the present study do not necessarily hold for every community. The environment, it should be remembered, was unusually favorable to gifted children. Intellectual interests enjoyed an exceptionally high place in the community. Also, the large number of children with above-average ability may have worked to the social advantage of the highly gifted children under study.

WHAT PRICE POPULARITY?

Should parents, teachers, and others concerned with the growth and guidance of gifted children be pleased with the findings of this study? Superficially, the results seem encouraging, but we may well ask whether peer acceptance is being obtained at the expense of intellectual growth and stimulation.

Despite the recent reaction against life-adjustment in the schools, the desire to be socially accepted and popular in a peer group is important to both children and parents. The question is not whether the gifted should enjoy social acceptance. The question, rather, that awaits an answer from teachers and other school personnel is this: How can we help gifted children to enjoy both the esteem of their classmates and the excitement of intellectual pursuits? •

We Don't Need to Understand It

Automation and Education

CHESTER H. LANG

In New York State Education

THE very fact that many people ask: "What impact will automation have on our future in general and on education in particular?" confirms my belief that there is too much mystery in the word "automation." People are investing it with a sort of magic.

Don't let the word automation throw you. It's just the name for one of the most recent developments of mechanization in industry. And we've had mechanization around for hundreds of years.

Actually, we don't have to know what automation is; it's what it does that's important. All we need know is that it is mechanization advanced to another degree of progress, enabling us to produce goods and services in less time and with less physical effort, and usually at considerably lower cost. We don't need to understand it any more than we need to know how an automatic telephone switchboard (a marvel of mechanization) works in order to reap the advantages of the dial telephone or to appreciate its importance in our modern civilization.

We can thank our lucky stars for mechanization — and automation — and the minds which have brought them to pass. Think of it! As recently as a hundred years ago, approximately 65 percent of the work force in the United States were on farms producing food and fibers. Today, only about 12 percent are so engaged—and they feed the other 88 percent! A very large proportion of America's labor force today is employed, instead, in manufacturing and the service industries thus made necessary. And some of these people make the machines which the modern farmer uses so efficiently to supply that other 88 percent with food.

Chester H. Lang is Regent of the State of New York and a retired Vice-President of the General Electric Company. Reported from New York State Education, *XLV* (*June* 1958), 622-25, 666.

And what changes have been wrought in the past 75 years! In the span of a single lifetime, we have been given the electric light, the telephone, a hundred and one labor-saving household devices, the automobile, the steam turbine, electric locomotives and trolleys, movies, submarines, X-rays, airplanes, radio, radium, and nuclear processes, to mention just a few. And it's only the beginning!

What changes will come about in the next 75 years—yes, the next 25 years! What a stimulating challenge all of this is to man's creative

genius! For now that the scientific and industrial age is well under way, our progress in those fields is not only continuing, but accelerating.

EFFECT ON EDUCATION

Inevitably these changes have had a profound effect on education, which is just another way of saying that mechanization and automation have had this effect. For one thing, we are thus enabled to spend more of our early lives getting a better education. Many people still alive can remember the "child labor" laws and the necessity for enacting them. Today—for most people at any rate—those laws just simply aren't needed, for everyone wants his children to have at least a high-school education. And the number who go on to college is increasing so rapidly that the colleges are wondering if they can take care of them all.

What of the actual work force itself? The members of this group are spending about half the hours per week on the job that their grandparents did. The eight-hour day and the five-day week are taken so much for granted that there is even some agitation for a four-day week. (A word of caution: Let's be careful not to barter away any part of our standard of living for another day of leisure.) At the other end of the scale, people are living longer—and retiring earlier. For these, and for all—for the average person of whatever age—there never before has been so much time available for recreation, self-improvement, and nurturing the things of the spirit.

Here again mechanization and automation have lent a hand. For the material progress which they have contributed has brought spiritual progress with it. We have more time to enjoy our neighbors and express ourselves. At no time before in the history of the world have there been so many good facilities for sports and leisure time, so many books, so much art, such an abundance of music, such a wealth of educational opportunities, for the widespread use and enjoyment of everyone.

And mechanization has made contributions in the field of education itself. To supply the mushrooming demand for ever more and better educational facilities, modern methods are making it possible to construct buildings and equipment that were undreamed of in the days of the little red schoolhouse. In the face of increasing enrolments and mounting costs, industry is more and more recognizing the fact that it has an obligation to pitch in and help. And industry is conscious of the need for the broad outlook.

For industry knows, as educators know, that practical education is not always adequate. We have learned that the great growth in educational facilities which has taken place during this century, bringing about a corresponding expansion into the technical aspects of education, is not enough without

some foundation in the liberal arts. Our American ideal, individual liberty, has enabled us to cultivate the free spirit and the inquiring, philosophical mind. It is really no paradox, no coincidence, that our greatest scientists are frequently great philosophers as well.

President Eisenhower, speaking at Pennsylvania State University a few years ago, said: "In this country we emphasize both liberal and practical education. But too often it is a liberal education for one and a practical education for another. What we desperately need is an integrated liberal, practical education for the same person . . . Hand and head and heart were made to work together. They must work together. They should be educated together."

I think the most important factor, the priceless ingredient in this modern concept of education is freedom. By this I mean freedom of the spirit—freedom to think as we wish, to let our minds roam the adventurous paths, trodden and untrodden, which lead, literally and figuratively, to the stars.

Yes, automation was bound to have an effect on education in this country. Quite obvious it—and its latest "manifestation," satellites, for example—has intensified the interest in technical subjects and in technical careers. But it is clear that its influence goes further than this.

So again I say: What automation *is*, is not of first importance to most of us. What it DOES is important to all of us. •

The Old and the New Way

• Automation is bringing a new kind of fringe benefits. Workers in an automated British oil refinery see so few human beings that they have demanded "lonely money."—From *Changing Times.*

• I believe in the old-fashioned three R's taught by the best methods, old and new. But with equal conviction I believe in the three W's—work, work, work.—From *North Carolina Education.*

• There is just as much authority in the family today as there ever was—only now the children exercise it.—*Rev. Harold C. Phillips,* Cleveland Heights, Ohio.

• Forty years ago it took only 100 horsepower to keep a combat plane in the air. Today it takes 250 horsepower to carry a 115-pound female to the corner grocery.—From *Industrial Press Service.*

• With the future so uncertain, about all a normal person can do is live in the present, *tense.*—John Harold in *Midland Schools.*

1958

19 *Filing Cabinets Now Empty*

We Microfilmed Our Student Records

LEWIS L. BURKHART

In School Management

LATE in 1955, we faced up to the need for doing something about our student-record storage problem. Two issues were involved:

1. Records of pupils who had been in our schools, dating back to 1900, were taking too much space.

2. The records, which we maintain, needed fire protection.

We were particularly conscious of this latter point. A disastrous fire, early in the century, had destroyed every pupil record in our possession. These records are important. Although they are usually "active" for only five or six years after a pupil has left us, frequently they are the only means through which such important facts as citizenship or age can be established.

It was proposed that we put all these records on microfilm.

At the time that we decided to microfilm, our past records occupied 20 four-drawer filing cabinets. There were between 25,000 and 30,000 pieces of paper involved. We were assured, before we began the job, that after microfilming we would be able to house all of these records, on films, in a single cabinet only half the size of one of our standard four-drawer units. This has been the case—in fact, we even have room for several additional years' records before we'll need another file.

Lewis L. Burkhart is Superintendent of Schools at Kent, Ohio. Reported from School Management, II (*July* 1958), 48.

We acquired our microfilming equipment on a rental basis from Remington-Rand. All of the work was accomplished by our regular office staff in spare time not needed for routine tasks. The actual filming took almost a year, and we required an additional three months for jacketing and filming the results.

Two copies of all records were made. One roll of microfilm was cut into strips which were mounted in three by five plastic cards for easy reference. The other roll was moved to another building to give us a duplicate record in case of fire.

The method of filing the records is unique. Generally a single card, which is really a plastic jacket to hold the film, will accommodate the entire record for one graduate. When the films are clipped and inserted in the jackets, they are then filed vertically and alphabetically in a four-drawer file in our headquarters' building. Each drawer contains two rows of cards. Thus, when we need the record of any given person, it is very simple to locate.

When the record is drawn from the file it is put in a portable microfilm reader which provides an enlarged view of the data. In most cases, we don't have to provide an actual copy of any of our records. In the few cases where it is required, we send the card to the local Remington-Rand office where an enlarged photo-copy is made.

As mentioned before, we keep in a fire resistant vault a duplicate set of records in roll form.

All new records will be filmed as they accrue. As in the case of the major microfilming project just completed, we will rent the necessary camera equipment on a temporary basis since our annual volume is not great enough to justify buying a unit.

The cost of this job has been most reasonable. The initial cost of microfilming was only four cents a document. In estimating this cost the following items have been taken into consideration: rental costs of microfilming equipment, rolls of microfilm, extra rolls of positive film, Kard-A-Film jackets, the microfilm reader, and the filing cabinet with indexing guides. In the future, this unit cost will drop since our capital investment, which is included, will have been written off. •

Student Records for the Home

• Teachers must be completely honest with parents. If tests or other evidences of accomplishment are to be sent home with the child, the material should be an accurate representation of his attainments. Sending only the best, or perhaps, stimulating the child to take home copy work to show his creative ability, can lead a parent to conclusions that are contrary to fact.—*Winston Roesch,* U. S. Office of Education.

• For generations, parents have been asking the question, "What did you do in school today?" and for generations they have been getting the same answer, "Nothing." One teacher concocted a simple antidote for this nonsense. During the last hour of the day she wrote a brief outline under the title of "What We Did in School Today." She ran this off on a gelatin duplicator, and saw that each child had a copy in his hand to take home. Parents were lavish with praise for this note.—Hope A. Diffenderfer in *The Instructor.*

• When the $64,000 kid received a "bad report" note for his parents, he gave the following explanation to his father why he missed every question that day: "None of the questions was in my category."—From *Florida School Bulletin.*

Let Pupils Unscrew the Inscrutable

She Made Mathematics Almost Flunk-Proof

FRANCES V. RUMMELL
In National Parent-Teacher

MORE students fail mathematics than any other subject. Yet for 35 years Miss Beulah I. Shoesmith, a lively and distinguished teacher in Chicago's Hyde Park High School, demonstrated that mathematics can be exhilarating, popular, and practically flunk-proof. Her classes, though exacting, were always overflowing, and her students affectionately boasted that her middle initial stood for "Isosceles."

Miss Shoesmith developed young mathematical wizards by teaching the pleasures of independent, creative thinking. In her early days rote, rule, and memorizing were in vogue, and she avoided them all. "A puppy," she said, "learns by rote and rule. Education should be more than mere animal training."

Youngsters who were used to parroting a textbook had to unlearn old habits fast under Miss Shoesmith. And woe to the forgetful one who glibly explained, "This is true according to proposition 17, corollary 3." Miss Shoesmith would mournfully comment, "It would be just as scholarly to tell your history teacher that Napoleon won the war at the top of page 33."

But students learned not to fear crawling out on a limb—as long as they didn't choose the same limb twice. "If you must make a mistake," this teacher urged, "just be sure it's a new one." A thoughtful mistake would be held up for class discussion, and a really stunning one usually brought an admiring, "What an ingenious trap you set for yourself!" Such an error proved that the student was thinking and, once the reason for the miscue was thoroughly analyzed, he would plunge forward with more intensive effort than before.

Once youngsters had struggled free of their rote-and-rule habits, Miss Shoesmith always triumphantly guaranteed their success. She vows that she has never seen a student of normal intelligence who cannot master mathematics. There is this, however: She is convinced that students of the subject are utterly dependent on their teacher's presentation. Thus, to introduce geometric progression, Miss Shoesmith would use this problem: A

Frances V. Rummell has been a staff member in the U. S. Office of Education and Coordinator of Magazine Information for the Department of Health, Education, and Welfare. Reported from National Parent-Teacher, *LII* (*June* 1958), 4–7.

clever boy asked his penny-pinching father for an allowance of five dollars a month and was refused. The boy made a counter proposal. Would the father give him two cents the first day, four cents the second, eight the third, and so on? This sounded satisfactory, and the father agreed. How much would the boy collect on the 10th day alone? The 30th? Enjoying their surprise answer, students never forgot the system of geometric progression.

She never turned a class loose at the end of the hour without first introducing the next day's lesson, eliciting and contributing suggestions for attacking it, and often creating suspense. She encouraged competition as a healthy intellectual spur and she kept the class on its toes by ranking its top 10 students about every two weeks.

Such a teacher would find it hard to retire, and Miss Shoesmith found it almost impossible. When she left Hyde Park High during World War II, the University of Chicago and the Illinois Institute of Technology both asked her to teach GI's studying electronics and engineering. Happily she taught first in one college and then the other—for 10 years in all.

TWO DEADLY ERRORS

Today, a buoyant 78, this petite white-haired scholar believes that two deadly errors have permeated much of our education. First is the underestimation of students' intelligence, which results in offering them too little that challenges their minds. Second is the attempt to put across to all students, slow and quick alike, the same subject matter.

As early as 1912 Miss Shoesmith began to assign minimum, average, and extra-performance lessons in each subject. Every student, with his teacher's guidance, selected his own level of achievement purely on the basis of his "time, interest, and ability." For the teacher this three-part scheme meant a formidable task in lesson preparation. Yet since mathematics is the foundation of the exact sciences, Miss Shoesmith was determined to encourage the capable student to go deeper, not merely faster.

To dubious officials she stated her case this way: "I think I can demonstrate that many students are capable of doing far more advanced work than they are ever given the opportunity to do. I believe, too, that my plan will improve the learning tone of even the slow students."

HERO'S FORMULA

Several months later a skeptical administrator dropped into a geometry class in which the assignment, on three levels of difficulty, was based on the area of a triangle. When the simple problems had been presented, an ambitious boy volunteered to undertake the derivation of Hero's Formula, which expresses the area of a triangle in terms of its size and requires the use of algebra beyond the average

student's depth. Every eye followed his work at the board. Some classmates tried keeping up with their pencils. Occasionally one asked for a clearer explanation. Tension mounted as the boy struggled. Finally he grinned and, with a scholarly flourish, signed off with the letters Q. E. D.

The whole class broken into spontaneous applause. The administrator, beaming, congratulated the class, shook hands with the teacher, and whispered, "It works! Go to it!"

The effect of such extra problems on the whole class was more inspiring than Miss Shoesmith herself had anticipated. She says, "Even the slowest could appreciate a beautiful performance—just as I, who can't sing, appreciate hearing a beautiful soprano." Better still, an indifferent student would sometimes find his interest sparked.

"THINK" PROBLEMS

Indeed so many students took to Miss Shoesmith's richer diet that the teacher left her textbook to collect "think" problems from many sources. "Here," she would gaily announce, "is another chance to unscrew the inscrutable." Then she would introduce a problem "missed by 90 percent of the youngsters taking the College Boards last year." Or a problem "causing headaches at West Point."

During the latter half of Miss Shoesmith's career she began to collide with certain educational practices that were almost as artificial as those of the rote-and-rule era. Some 30 years ago, for example, at the beginning of every school year, educational psychologists began sending her the IQ records of every student. Unwilling to have her own judgment tampered with, she simply filed the records and at the year's end matched them against actual performance. Invariably she found some of her best students among those supposedly unable to do superior work. She felt, therefore, that classifying a student by his IQ alone can be prejudicial and often harmful. The IQ, she says firmly, should not be omnipotent. "We often talk as if pupils were so many jugs to pour knowledge into—with the saturation point predetermined by the IQ."

She dissents sharply, too, from any curriculum adviser who tries to enlist the student's interest in mathematics by such activities as timing track and other school events, laying out a baseball diamond or tennis court, or writing and presenting a play on the family budget. Miss Shoesmith would fervently plead with educators not to waste children's talents and dull their ambitions on such trivia and make-believe work. "Nobody ever learned American history," she says, "by carving Washington's profile in soap." It is time, she urges, for parents and teachers to realize that nothing gives a student more pleasure than climbing a mountain which he wasn't sure that he could climb. •

A Tribute to the Area Vocational Schools

Kind of School We Need Everywhere

RICHARD C. DAVIDS
In Farm Journal

YOU'VE seen many a boy who was just sort of lost after getting out of school. He didn't want to go on to college—or couldn't—and he couldn't seem to get a start. He worked for a while in a gas station, then drifted on to other jobs—always starting at the bottom.

I've just visited a kind of school that's tailor-made to help boys and girls like these. It turns them into top-notch machinists, secretaries, draftsmen, and electronics specialists. Does it in 18 months to two years, too, and practically guarantees that they'll move directly into highly paid jobs.

Called an area vocational school, it's the type we've needed everywhere, especially in rural areas, to take over where high schools leave off. And we need them more than ever right now, when the farm population is declining.

We've had vocational schools for years. But not enough of them. And nearly all have been in big cities, far out of reach of farm boys and girls.

Some far-sighted Louisiana educators recognized this problem 20 years ago and put up a few vocational schools in rural areas. They did such a good job that now the state has 27 schools, each serving two or three counties (called "parishes" in Louisiana). I spent a week studying the school at Crowley (population 12,000) which handles students from Acadia and Lafayette parishes. And if I'm not mistaken, it offers a pattern that farm people everywhere might study hard.

Richard C. Davids is an Associate Editor of Farm Journal. *Condensed from* Farm Journal, (*March* 1958), 41, 78-79.

In this bayou country of big families, farm boys by the hundreds have been forced to leave the farm—just no more farm land left. The school at Crowley has helped ease the shift to town jobs. Since the war, a big share of the students have been GI's in training, but now a growing number of the 550 who crowd the school from eight in the morning until ten at night are fresh out of high school. A third are still in high school, sampling several trades to see which suits them best.

Adults come, too. In fact, any time that enough people want a course, area vocational schools can usually offer it. Farmers learn welding, diesel repair, electric wiring—skills that will save them considerable money. A few come to learn a new trade altogether. They need it if they're going to get a decent job in town.

There is no tuition charge. School runs the whole year long. There are no semesters or terms. A student simply begins as soon as there is room and his application is approved. Each student works at his own speed. He can go from one job to the next as fast as he picks up a new skill. No wonder you don't see boys loafing or bored! The whole place has more the air of a busy industry than a school.

RULES ARE STRICT

Rules are strict. Students punch in on a time-clock, and a boy with only three unexcused absences is dropped. A boy doesn't leave one job until he's proficient at it. In auto repair, for instance, he has to overhaul a transmission in the three hours or so allotted by a mechanic's "flat-rate book."

Beyond all this, the school trains a boy to open his own business. It even serves as an employment agency. Almost every day some business—a Texas oil company or a Detroit auto manufacturer—calls for boys. During my own stay at Crowley, five farm boys, after 1200 hours of training as draftsmen, went to work for architects in Baton Rouge at good pay.

"The big trouble," says the school director, J. W. Mitchell, "is keeping boys until they've finished. The offer of a good job sometimes argues louder than a diploma."

What is the cost of a school like this? About $325 a year per pupil for everything, or about the same as the average high school. Since most courses are two years long, that's a total of $650 for each pupil. Not much when you remember that it's fitting a boy for a lifetime of work.

FARMER TO MECHANIC

Let's see what that expenditure can mean to a farm boy. Norvin Langlinais got out of the Marines and started farming, but he decided that three families were too many on one place. He took the two-year farm mechanics course at the Abbeville, Louisiana, school and took a job in the local Ford tractor shop. When it came up for sale, he scraped together enough cash to buy it. Now the farmers say he's one tractor man who gives good, quick service. He has done so well that he hired another graduate of the school to assist him.

I asked Norvin what he might be doing without his school training.

"Probably day labor in a rice mill or roustabout work in the oil fields. There aren't many unskilled jobs left."

We heard that story again and again. A farm boy without special training finds just about every door locked to him, except unskilled, low-pay work. Two other Abbeville students have bought a radio and TV shop. Another started his own auto air-conditioning business.

Do these seem like highly specialized skills? They are. If you haven't visited a modern vocational school, you'll be amazed at the contrast with yesterday's "manual training and welding shops." No

wonder Louisiana is winning a reputation among industrialists as a place to get topnotch craftsmen.

But so is Kentucky. Stop in at Paintsville and visit the Mayo School there if you are driving through Kentucky. A family from Hershey, Pennsylvania, did that two years ago and they were so impressed that they dropped their own boy off at the dormitory to start school. Now he's back home on a good job, thanks to his training. Another boy came who had worn out his welcome at two high schools. He hated math, couldn't do fractions. Within the year he was doing trigonometry. Why? Because he needed it to be a machinist, and could see a point in "wading through that stuff." Learning for the sake of making a living is a powerful spur.

Good vocational training can change the lives of people. I talked to a man of 52 who, after 20 years in the coal mines, could no longer work underground. He was driving 62 miles each way to school, learning auto repair along with his son who was studying body work. After only six months of school, they had more business than they could begin to handle after hours at home. His teacher told me: "We could place four times the men we can turn out."

Kentucky has 13 other area vocational schools, but that isn't nearly enough. James L. Patton, state director of vocational education, says that every school has waiting lists. Minnesota has several fine rural area vocational schools.

But we need more of them everywhere. We need them to help keep America strong, and we need them for the sake of our boys and girls. •

The Need for Workers

• The worst failure of the educational tinkerers is their complete disinterest in the nonacademic 25 to 35 percent. What are we to do with the nonacademic students of high-school age? Dump them in the Atlantic Ocean? Put them in concentration camps? The "ivory-tower boys" sneer at the poorer students with the attitude that "those of 70 to 90 IQ do not count." On the contrary, they count a great deal. They run the lathes; they man the front lines during the war; they fix the automobile when it is helplessly stuck on the road—in short, they are the salt of the earth. Anything the schools can do to make these people better workers, and, most important of all, better citizens, is of profound value to our society.—*Herbert A. Tonne,* New York University.

1958

The Methods Are Old, the Uses New

Phonics and Word Method: Origin and Development

NILA BANTON SMITH
In Education

ABOUT 400 years ago a scholarly schoolmaster in Rothenburg, Germany, conceived the idea of teaching children the sounds of letters as an aid in learning to read. His name was Valentin Ickelsamer and his use of phonics is described in his *Deutsch Grammatica,* a book published in 1534. In this book Ickelsamer treated orthography and etymology—and a third topic which is of great significance in the chronological development of reading methods. This topic was "A New Method of Teaching Reading Based on the Phonetic Value of Letters." According to this method Ickelsamer started children out with "words in which the vowels had the same values." After learning the vowel sounds, they were taught the sounds of the consonants. Insofar as the writer is aware this is the first mention of phonics in reading instruction history.

This idea of teaching letter sounds did not take hold, however, and the spelling method prevailed throughout Europe for many years after Ickelsamer propounded his plan for teaching phonics.

In America it was two and a half centuries after Ickelsamer's book appeared before phonics worked its way into the classrooms of our then young nation. Following the Revolution, American teachers decried the use of the English reading texts which had been used exclusively up to that time. And one of these teachers—Noah Webster—prepared the first reading texts to be authored by an American citizen. In these texts Webster introduced phonics—but not as an aid in learning to read, rather as a medium for unifying American language. Originally he prepared three books: a spelling book, a treatise on grammar, and an advanced book on "Lessons in Reading and Speaking." As bound together in one volume, they were unpopular. After seven years of gloomy failure the books then were taken over by a different publisher and revised. This time the first book in the series appeared as *The American Spelling Book.* This beginning book was encased in brown cardboard covers concealed with a coating of pale blue paper—and it was this volume that was destined to become the famous old "Blue-Back Speller."

Nila Banton Smith is Professor of Education and Director of The Reading Institute, New York University, New York. Reported from Education, *LXXVIII (May* 1958), 515–20.

This book became very popular. Royalties from the "Speller" enabled Webster to support his family for 20 years while he was writing his dictionary. In writing to a friend Webster said, ". . . . for nearly 30 years, returns of the numbers printed enable me to state, with tolerable certainty, that the whole number published cannot fall much short of ten millions of copies."

So we may know that 10,000,000 American boys and girls learned to use phonics while working with the old Blue-Back Speller. For several years, however, the phonic method was not used for the purpose of aiding children to work out the pronunciation of unrecognized words which they met in reading. It was used in realizing Webster's patriotic aim of unifying spoken language in America.

As the years rolled by, patriotism and phonics parted ways. Phonics then continued under the sponsorship of pedagogy. Pedagogy gave phonics its new function—that of helping children to attain independence in attacking new words while reading.

WORD METHOD INTRODUCED

It was during the 1840's that Americans began to hear about the "word method." Educators had visited experimental schools in Prussia and Switzerland and returned with enthusiastic reports of what they had seen. These experimental schools were largely under the influence of Pestalozzi, and Pestalozzi advocated teaching reading by presenting an object or a picture together with a word which represented it. Our educators who saw this method in use thought it was much more sensible than starting children out with the ABC's and they said so in no uncertain terms in speeches which they gave and articles which they wrote on their return to America.

A cursory examination of the many writings on this subject would leave one with the impression that the entire procedure for teaching reading was revolutionized by the introduction of the word method. As a matter of fact, it affected only the beginning stages of reading instruction and was not felt at all in the methods used in connection with the advanced grades.

As time went by many of the advocates of the "word method" expanded this method into the "sentence method" and the "story method" as an expression of their philosophy that, "The first principle to be observed in teaching reading is that things are recognized by wholes." The protagonists of this philosophy had children memorize entire stories like "The Little Red Hen" as first steps in reading. Later the children would read the long selections which they had memorized. Finally the teacher would break the stories down into sentences and words.

Simultaneously with this extreme emphasis on extended applications of the word method, another group developed elaborate phonetic meth-

ods which refined, stressed, and amplified previous practices in regard to teaching children the sounds of letters as a first step in learning to read. Rebecca Pollard, one of the chief proponents of the synthetic method, expressed this extreme new emphasis very well in a manual which she published in 1889. She said: "Make reading of the first importance. As in music, let there be scales to practice; drills in articulation; a *thorough preparation* before the simplest sentence is attempted."

Thus it was that the two methods of teaching reading became a controversial issue. For 30 years each of these two types of methods vied for supremacy in American schools. But slowly and gradually the two viewpoints became more subdued. Each group began to see some value in the method used by the other. At present we still use the word method and we still use phonics but not as disparate, antithetic, and mutually exclusive methods.

Our beginning reading instruction is pretty generally concerned with the word method. It is even extended to the story and sentence methods. But instead of having children memorize long folk tales as a preliminary step, the teacher gives them an interesting experience and lets them make up a short story about it which they read as a unit. Then she proceeds to aid them in analyzing this short composition into sentences, phrases, and words, even as the teacher of "The Little Red Hen" did when she was using the story extension of the word method in the earlier phase of reading instruction.

Through their experiences in reading stories which they have made up, children develop interest in reading, discover that reading symbols can convey meanings, and acquire a beginning vocabulary. This, modern psychology tells us, is infinitely better than initiating children into reading by having them engage in the meaningless and dull task of memorizing letter sounds—a process which may be likened to learning to knit without yarn.

But the phonic method does have a place and is still used. When children have developed a desire to read and have mastered the fundamental mechanics of reading, most teachers begin to teach phonics functionally as needed. Such phonics teaching continues on through the elementary grades and in many instances even into high school. Phonics today is taught over a longer period of time than previously, but it is taught functionally and contextually rather than as an isolated exercise.

And so both phonics and the word method continue on but not as separate methods, not taught in the same way as in the past, nor with the use of the same content. The present-day teacher fits bits of each method into ever changing mosaics as they best serve the reading needs and maturation levels of her pupils. •

Babel of 70 Tongues

Ten Years of Education in Israel

M. Avidor
In Jewish Education

THE first decade of existence of the State of Israel was very dynamic. The country—as its population increased about three-fold—experienced rapid development and vital activity in its economic and social structure as well as in its constitutional and political life. All this had its impact on the development of education in Israel, affecting its expansion, shaping its organizational structure, and determining its contents.

The feature that strikes one first, when one considers education in Israel in the years 1948-1957, is undoubtedly its numerical expansion—from about 100,000 to almost 500,000 pupils. The main growth of school population took place in the years of peak immigration to the country—1948-1951—when the number of pupils tripled within three school years. This great expansion, and the determination of the community to absorb every school-age child in a school, has created numerous difficulties, chief among which were acute shortages of accommodations, school equipment, and teachers.

During the first five years, conditions were very serious. Many classes were accommodated in unsuitable hired premises, in wooden and tin huts, and in tents; pupils attended classes in two and sometimes even three shifts. Owing to shortages of desks and chairs, pupils often sat on improvised benches and sometimes on the floor. Text books and notebooks were rationed because of paper shortage. These difficulties have recently been largely overcome, although school accommodation is not yet satisfactory.

M. Avidor is Director General, Ministry of Education, Israel. Reported from Jewish Education, *XXVIII* (*Spring* 1958), 3–8, 42.

More serious has been the shortage of teachers. In 1948 the school system (including kindergartens) was served by about 5000 teachers and kindergarten mistresses; by 1957 their number had grown to over 20,000. The Teacher Training Colleges and the University managed to train slightly over half of the teachers, the rest being rapidly "prepared" in all sorts of emergency training courses or recruited from among the recently arrived, not fully qualified aspirants for teaching. Thus, thousands of teachers joined the school system without having suitable qualifications or training.

An intensive campaign to improve the standards of these unqualified teachers through inservice

training and various courses and examinations, coupled with efforts to increase the number of fully trained teachers in Teacher Training Colleges, has helped to reduce the number of unqualified teachers. Fortunately, many of these teachers made up in devotion for their lack of sufficient training.

The large influx of newly arrived pupils created serious issues of linguistic and cultural absorption. The newcomers brought with them 70-odd languages and dialects. For a time it seemed as if Hebrew, so recently revived as a living tongue, would be engulfed within the Babel of tongues prevailing in the country. This did not happen. On the contrary the position of Hebrew in the country became firmer and more secure than in the pre-State days. This was due, in a large measure, to the very multiplicity of tongues brought by the newcomers. Their children, on entering school, very rapidly adopted the language of the schools. Hebrew spread at an amazing speed among the school children and through them to many homes.

More serious than the linguistic absorption has proven to be the cultural adjustment of the newcomers. The 70-odd languages they came with represented a very large variety of cultures ranging from the most advanced to the primitive. It became imperative to raise the cultural level of many backward newcomers, children and adults alike. A great effort has been made in the schools and in the Army, by labor unions, and by various voluntary organizations, to bridge the cultural gaps and to achieve ever higher educational standards. While a decade is too short a period to measure results of educational and cultural endeavors, signs abound in Israel that progress has been made.

The educational efforts of the community gathered speed in 1949 with the promulgation by the *Knesset* of its first major law in education—the Law of Compulsory Education. The Law abolished tuition fees for the age groups 5 to 14 and made their attendance compulsory for one year in a kindergarten and for eight years in an elementary school. As a result, many tens of thousands of children—especially among the newcomers—attend school who probably would have stayed away altogether or would have been taken out of school at the age of 11 or 12 and sent to work by their parents. The Law also provides that boys and girls aged 14 to 18, who have not completed their elementary education, must attend school until they do. For these youngsters, the state maintains free afternoon and evening schools, called Schools for Working Youth, in which general education and sometimes elementary vocational training are given three or four times a week.

The second major law promulgated by the *Knesset* in the field of education was the State Education Law of 1953. It abolished the pre-State "Trend System" with its religious and political traditions and

undoubtedly constitutes a great achievement for the education system. It relieved educators and the community alike from the rivalry the Trend System had brought about and allowed them to devote more attention to education problems. It also allowed the amalgamation of small classes and schools, which resulted both in fiscal economy and an economy in teachers.

The State Education Law defines the aims of education in Israel as follows: "The object of State Education is to base elementary education in the state on the values of Jewish culture and the achievements of science; on love of the homeland, and loyalty to the state and the Jewish people; on practice in agricultural work and handicrafts; on *halutzic* (pioneer) training; and on striving for a society built on freedom, equality, tolerance, mutual assistance, and love of mankind."

We have now weathered the storms of rapid expansion; we have passed through the initial, difficult stages of the cultural absorption of hundreds of thousands of children newly arrived from a variety of backgrounds and cultural levels; we have overcome the organizational and structural reforms necessitated by the establishment of an independent state and the growth of school population. We have also promulgated and implemented two basic education laws—Compulsory Education and State Education. But as we stand on the threshold of the second decade of the existence of this new education system in Israel, we face new and immediate challenges.

First and foremost is a renewed and invigorated effort to raise the standards in all stages of education to ever higher levels, especially in the field of teacher training, which will also ensure improved standards throughout the system.

Another challenge looms in the field of secondary education which, owing to demographic factors, faces inevitable expansion. The number of youngsters aged 14-17 will double in Israel within the next five to seven years, even without large further immigration. Post-elementary education in Israel requires some structural reforms, such as the introduction of the "comprehensive" system, the restoration of agricultural and vocational post-elementary training to the auspices of the Ministry of Education and Culture, and the establishment of regional secondary institutions for numerous small new villages which have no secondary-education facilities.

Finally, the efforts to equalize opportunities in schooling for all communities in the country, old settlers and newcomers, immigrants from the West or from the East, Jewish, Moslem, and Christian children, must proceed with even greater zeal. Efforts must also be made to instill in the hearts of Jewish children in Israel their living affinity with the Jewish people, and to strengthen the bonds between Israel youth and the world at large. •

1958

Eek! A Mouse! Where's a Chair?

Women Teachers' Attitudes toward Science in the Classroom

VIVIAN EDMISTON TODD

In The Elementary School Journal

ALTHOUGH most women teachers appreciate the importance of science and its achievements, their experience as members of the feminine segment of society may have produced certain attitudes which interfere with their ability and desire to teach science effectively.

Women, partly because of their feminine and middle-class mores, have come to identify science as a field for men, not women. The woman teacher who is interested in taking courses in science is the exception rather than the rule.

It is necessary that the elementary-school teacher should want to know more about science, and it is important that an inquiring attitude be developed in training and in service. These matters are important because the attitudes of the woman teacher in the elementary school determine to a considerable extent her effectiveness in teaching science to the boys and girls in her class. The beliefs which underlie, and are expressed in, her behavior are reflected in how and what her pupils learn.

The way in which a teacher responds to a classroom science situation reveals her attitudes. Certainly any teacher can learn to drop the traditional feminine reaction of shrieking and jumping on a chair when a mouse appears. Instead, she can show genuine interest in how the mouse carries on its life.

Vivian Edmiston Todd is Consultant in the Long Beach Cooperative Nursery Schools, California. Reported from The Elementary School Journal, *LVIII (April* 1958), 385–88.

If she realizes that she is avoiding the teaching of science, she is then in a position to do something about it. She can encourage her pupils to develop their science interests, and she can become an enthusiastic learner along with them. When, for example, Johnny brings a jumpy frog to school, she can say frankly, "You know, Johnny, I really don't know much about frogs, but maybe some of the other children do, and probably we can find what people have written about them in books. Our friend, the high-school biology teacher, can help us, too. We'll have fun finding out what the frog eats and how he lives."

What happens to pupils who year after year have teachers who withdraw from science studies and activities? Their growing disinterest in science has often been reported.

For instance, Herbert A. Smith, in a statement presented to a symposium on research in science education, describes how children react:

"One of the fundamental questions that we must face is why students lose interest in science. We are all acquainted with the fact that in preschool and lower primary grades children have a great many interests which might properly be termed scientific. They ask endless questions derived from their observations of their environment. These questions involve plants and animals, the stars and the sky; they involve the processes of reproduction and life and death itself. Why is it then that we see a gradual diminution of these interests as a child progresses through school? Very frequently by the time the child gets to the junior-high-school years he seems to have no interests in science at all."

ATTITUDE INFLUENCES INTEREST

Teacher attitudes may very well be an important consideration in answering Smith's question. When the science activities of a child are repeatedly discouraged, he is likely to make other efforts to gain recognition from his teacher. But when his science activities are encouraged by his teacher who also wants to find out more about her environment, his interests are maintained and often enhanced as well.

The explanation of certain findings of research in science education may very well lie in teachers' attitudes. Studies of pupils' interests have revealed central tendencies which are highly useful in curriculum development, but they have also shown wide variability in pupil interests at each grade or age level. Why, for example, should certain first-grade pupils be interested in momentum? And why are many children of the same age not at all interested in momentum? An incident like the following may hold the explanation:

Philip was speeding on his bicycle as fast as his legs could pedal. When he decided to put his brake on hard, both Philip and the bicycle stopped in a heap. The teacher, Miss Finch, gathered the sobbing boy in her arms. "We'll talk about it later," she said to the children gathering around.

After Philip's injuries had been taken care of by the school nurse and the children were back in their room, Miss Finch talked with them.

"What happened to Philip this morning on the playground?" she asked with an understanding smile for Philip as well as for the others.

"He fell off his bike," said Tom.

"He went too fast," said Jane.

"He hurt himself," said sympathetic Mary.

"Yes, indeed," said Miss Finch. "Now let me show you what happened. And I'm going to use a great big word. The word is 'momentum.' You watch for it."

Taking a toy bicycle, she put a little doll figure on it. "Here goes Philip on his bicycle. Faster and faster. Now he tries to stop. Well! The bike stopped, but Philip went

on the way he was going. The force of *momentum* kept him going ahead."

After a discussion in which the children absorbed what she had said, Miss Finch continued: "Now let's do it again, but this time Philip goes slowly, slowly. Now he stops, and he is still on his bike. When he went slowly, his *momentum* was not so great and he could stop without falling off."

Again the group discussed and absorbed the new ideas. Miss Finch concluded the discussion by asking, "Who can tell us what *momentum* is"

Philip volunteered, "It's when I put on the brake and don't stop."

Here the teacher was able to make an accident on the playground the basis for a science lesson in which Philip and his classmates grasped the concept of momentum. A few days later, when the class was talking about staying out of the street when an automobile is coming, she again used the word "momentum." The momentum of a fast-moving car, she pointed out, may keep it moving even though its driver has put on his brake. "Keep out of the way of cars. Don't count on the driver stopping," the children concluded.

TIMING IS IMPORTANT

The teacher who has studied science may know the facts about momentum but may not sense when to teach them. A teacher intent only on imparting scientific facts, for instance, may have tried to give Philip a lesson on momentum the second after he picked himself up from the ground while he was preoccupied with his injuries and his accident. But, if her basic attitudes with the children are those of helpfulness and cooperation, she will time her teaching so that optimum learning will be achieved.

Women teachers in the elementary school are a part of a social order which appreciates science and its contributions to society. But the woman teacher belongs to a social group which in some ways holds attitudes that may interfere with effective science teaching. She may have left to men certain chores which border on the scientific. As a woman she may oppose science activities which interfere with her spotless school housekeeping. She may be displeased with items salvaged from trash cans by children who get dirty in the pursuit of the wonders of nature. But, through recognition of her social inheritance, the woman teacher is in a position to do something about modifying her legacy with attitudes more appropriate to science teaching. Through workshops and other educative experiences, she can study science and acquire attitudes that lead her to encourage her pupils and often to share with them firsthand science activities. As more and more elementary-school teachers revise their attitudes, pupils' interest in science will remain strong throughout the elementary grades, and girls and boys, as well as their teachers, will learn more science. •

Intelligence, Interest, or Ability—Which Is Important?

The Psychology of Individual Differences

PHILIP E. VERNON

In Harvard Educational Review

ONE of the most urgent and most controversial questions in education today is what kind of organization will encourage the fullest development of the varied mental capacities and inclinations of students. There are certain fundamental psychological principles—as well as advances in recent years in the field of mental testing—which may be a help in guiding our views on educational policies.

Although the present system of allocating students to suitable courses of study in England is about as different as it could be from the system in America, it may seem worthwhile to pool our experiences in an attempt to see our way a little more clearly.

The problem is indeed a very broad one. In general, pupils and students are so heterogeneous in their characteristics and potentialities that it might seem desirable to plan for each one an education uniquely suited to himself. However, this is neither possible nor desirable, for education implies not only individual development but also the training of different individuals to conform to society's patterns of intellectual and social norms. Thus there are positive advantages in educating diverse individuals in groups. Nevertheless, there must be some restriction of their heterogeneity, otherwise the educational process becomes inefficient and frustrating to the students as well as to the teacher.

Philip E. Vernon is Professor of Educational Psychology at the University of London Institute of Education and Editor of the British Journal of Educational Psychology. *Reported from* Harvard Educational Review, XXVIII (*Spring* 1958), 91–104.

It would be absurd, for example, to try to train imbecile children and university students of atomic physics in the same group. To take a less extreme example: The tiny country school where one teacher copes with a very wide age and ability range performs many valuable functions; but there is no doubt, in England at least, that its educational efficiency tends to be below average.

Given, then, there must be some reduction in heterogeneity, the psychologist would surely urge the following stipulations. Any grouping should be based on some characteristic which: first, is stable and enduring; second, can be accurately assessed; third, has a major influence on educational progress; and fourth, is acceptable to society. Difficulties arise at once, because

few characteristics, apart from age and physical handicap, meet these requirements. Nevertheless, there is general agreement that grouping is necessary.

GROUPING BY ABILITY

Here we shall turn to that which is made on the basis of ability. However, determination is not to be made solely by the use of the intelligence testing which results in an IQ score, but through the broader interpretation of the term intelligence. Intelligence can be defined as the more general thinking capacities: capacities for reasoning, for grasping relations, for comprehension, for new learning, and for concept development—that is, capacities which are not so much specifically taught, as picked up by children in the course of their interaction with the home, school, and wider environments. Attainments, on the other hand, refer rather to concepts and skills which depend more on direct instruction and on the child's interest and industriousness in the particular subjects studied.

Such a distinction is one of degree rather than of kind, and it is entirely false to think of intelligence as causing, or making possible, attainments. It is at least as arguable that, through the acquisition of attainments at home and at school, the child is enabled to build up his intelligence.

No doubt it will be suggested that, instead of grouping by general intelligence and previous all-round achievement, we should consider type of ability and interests along special lines. This might be called the multi-dimensional as opposed to the uni-dimensional approach. British and American psychologists have always differed on this, just as have their educational systems. The British, following Spearman, have tended to stress the importance of general ability: children who are above average in one school subject are likely to be above average in all others. Only to a limited extent, as C. L. Burt demonstrated in 1917, do we get more specialized types of ability showing in the primary school—for example, some children being generally poorer at number work than at English subjects, or better at all practical and manual activities.

In contrast, Thurstone in 1938, from his analysis of tests given to college students, claimed that abilities are largely independent—attributable to a series of separate factors: verbal, number, reasoning, spatial, etc. When, in later work, he extended his testing downwards to eighth grade and younger children who were less highly selected, he, in fact, found much overlapping among these factors.

This means, then, that it is extraordinarily difficult to differentiate secondary-school pupils by type of ability into even such broad categories as linguistic or academic on the one hand, and scientific or technical-mechanical on the other. For the most part, those who are best at one course would also be

above average at the other, and vice versa.

If we confine our attention to a narrow ability range, say the top 20 percent as in England, then we find it possible, with our present verbal and spatial tests, to differentiate the extremes. Of course there are no distinct types of children any more than there are tall and short types in height. We can pick out roughly one-sixth who are relatively superior on the linguistic to the technical side, and one-sixth who are more suited to the other type of course. There remain two-thirds who are likely to do equally well or badly at either.

The efficiency of prediction of over-all level of achievement by means of tests is much greater than the efficiency for classifying according to, say, engineering or arts, and this is only the broadest and most obvious dichotomy. If we tried to go further and split off, say, foreign linguists, social studies students, art students, and agriculturalists, we should certainly be far less successful still.

Some psychologists would claim that abilities differentiate with age, so that suitability for different lines of study or type of curriculum would become more clear-cut near the end of secondary schooling or during college years. No satisfactory evidence for this claim can be found except insofar as groups of older students are usually more highly selected in general ability.

However, the outlook for guidance or selection into types of courses is not quite so dim if we take account of interests, since interests have the tremendous advantage, for classification purposes, of showing quite low, sometimes even negative, correlations with one another. The good scientist and the good business man, for example, may differ little in such abilities as we are able to test. They would, however, loathe one another's jobs, and would likely be thoroughly bored by any education or training designed to prepare them for the other's technical career. In England we find that we can differentiate nearly two-thirds of the more able pupils into the academically- and the technically-minded at 11, as against the one-third mentioned earlier, by taking account of *interests* as well as *abilities*.

DEVELOPING INTERESTS

One difficulty with interests, though, is that they cannot develop without experience. There must be many adults who fail to get much satisfaction from their vocational and avocational pursuits because their education has not provided sufficient opportunities for them to experience, say, painting, farming, or mechanical work. The American system of offering a wide choice of secondary-school subjects, while often criticized by educators for its fragmentariness, is sounder in this respect than the English which gives less variety and, indeed, tends to stereotype the more able pupils either in an arts or a science field from about the age of 14, and to

discourage less academic inclinations. The shortage of technologists and high-grade technicians in England is at least as serious as that in America. Clearly one of the reasons is the high social prestige of academic courses of study which hinders the provision of experience that might stimulate the development of more practical interests.

Another obvious difficulty arises from the variability of interests during adolescence. Among many students, interests may not be sufficiently stable nor assessable to allow firm and satisfactory educational or vocational specialization until the end of secondary schooling or even later. Nevertheless, one investigation at London University of adult technologists and arts men did suggest that some differentiation of interests would have been apparent in the great majority as early as 12 years. This is a field where psychologically trained counselors can help in making earlier diagnoses, and where current work on personality gives promise of improved tests.

How about the problem of discovering the brilliantly talented individual – the occasional future genius? Clearly, neither our tests of abilities nor of interests are going to be much use here, and we must continue to trust mainly to luck, to the perceptiveness of the school or college teacher who encourages him, and to the individual's own drive, which enables him to break through the barriers of the educational system.

One other point of psychological theory: Although it has been shown that the group factors underlying particular types of curriculum are disappointingly small and difficult to diagnose, this does not dispose of what Spearman called specific factors. Individual pupils show great variations with respect to specific topics within any course, depending on their particular past experience and interests, and on their emotional responses to the teacher and other members of the class.

Thus, even when they are satisfactorily grouped for, say, oral reading, they will show considerable heterogeneity in silent reading or spelling, let alone in nonrelated subjects. For such reasons, many educational psychologists currently look more to individual assignments and small-group work within classes to cope with most of the problems of individual differences than to over-all grouping into separate classes. With this goes the notion of enrichment of courses among the brighter students. The adequacy of such solutions is doubtful since they clearly imply increasing the degree of heterogeneity within the class and thus run counter to the thesis of this paper.

CONCLUSIONS

What conclusions can we come to then? No evaluation of the various mechanisms of acceleration that have been, or are being, tried out in America, such as grade-skipping, advanced standing, and the shortening of courses through en-

riched programs will be made here. But the evidence does seem to point to the desirability of some form of grouping, such as indeed already exists in many American high schools. Nevertheless, there are many dangers in introducing anything that implies competitive selection or stereotyping of ability levels.

It is, therefore, preferable to keep to grouping by age, and later by interest, as far as possible. Up until about nine years of age or the fourth grade, there would seem to be no good case for any ability grouping other than segregation of the lower-grade feebleminded, the physically handicapped, and, perhaps, temporary remedial classes for the higher-grade defectives and the very backward.

However, by the age of about 13 or the eighth grade, the range and complexity of abilities *appears* to have become much wider. It is doubtful how satisfactorily we can measure range of ability in any absolute sense even at this age. But everybody can't go on studying everything, and, in the interests of professional and vocational objectives, some specialization should begin to be introduced. Hence, some degree of grouping by general ability, and to an increasing extent by interest, would seem legitimate.

While it is true that many thinkers strongly deprecate early specialization, surely its dangers should be balanced against the waste of productive years which results at present from the late postponement of any specialization. Between the fourth and eighth grades one can only suggest that the curriculum be largely of an exploratory or diagnostic character, designed not merely to provide essential skills, but to stimulate general mental development and to provide experience out of which interests can be built.

Even when grouping is introduced, there should be sufficient overlapping between groups to make transfer up or down easy, and, of course, sufficient common activities in a school or college to discourage the formation of barriers. In other words, the process should be one of gradual approximation in accordance with the principles of educational guidance rather than one of selection of irreversible decision.

Inevitably this is a vague kind of framework and the psychologist must always remember that his prescriptions are liable to be upset by social prejudices and traditions, financial shortages, increasing birthrates, and innumerable other factors. The American type of school organization seems to meet the prescription set forth here more nearly than does the British, though it may, of course, show weaknesses in other respects. Some means should be devised of giving greater and earlier recognition to individual differences in general educability and of avoiding, if possible, some of the mistakes that have arisen in England as a result of the strangle hold of tradition.

1958

With Education in Washington

THE EDUCATION DIGEST WASHINGTON BUREAU

Federal Aid.—On the very last day of the Congressional session, the National Defense Education Act of 1958 won final approval and was cleared for the President's signature.

The four-year program of special aids, fellowships, language and science institutes is estimated to cost $887 million. Actual figures should be quite different.

Scholarships were knocked out of the bill during the debate, but a push seems likely to enact a separate scholarship bill next year. Chances look good, and total cost will thus go higher.

On the other hand, costs will be lower because the new law is off to a slow start. Congress actually granted only $40.8 million for 1958-59 instead of the $110.8 million needed to put all parts of the new law into full-fledged operation.

Still, there will be a start. The U. S. Office of Education will have more than half a million dollars (probably $750,000) for salaries of new staff and for expenses connected with planning the various programs.

Generally speaking, the new law will go into effect fairly soon only for those parts which call for contracts or awards negotiated between the U. S. Office of Education and institutions of higher education. Other parts of the law—especially those affecting local school systems—will have to wait for legislatures in the various states to authorize the necessary machinery and to authorize matching funds.

Some states may be able to move on the strength of administrative rulings and by shifting the burden of matching the federal funds onto local schools boards. But at the state level, where most of the planning must be done, significant progress and expenditures must await legislative action. Most legislatures meet in the spring, and full effect of the program will be delayed until September, 1959.

Indiana, Out and In.—Outspoken foe of the education bill was Sen. William Jenner (R-Ind.). He said it was unnecessary. To drive home his point he offered an amendment: "That the state of Indiana be excluded from the provisions of this act."

Debate was short; the amendment was joyously accepted by the Senate and remained part of the bill until it headed for conference. The House version included Indiana and on this point the House prevailed. The schools of Indiana, accordingly, will receive their proper share of the new federal funds.

Camel's Nose, In.—Matching the opposition of Sen. Jenner was that of Sen. Barry Goldwater (R-Ariz.): ". . . In my opinion, we are engaged tonight in the destruction of

our constitutional freedom . . . . As I said in my minority views, once the camel gets his nose under the tent, the body will follow."

In the course of Sen. Goldwater's speech, the camel made three additional appearances, presumably wound up safely in the tent as the bill passed by a clear majority.

Library Services.—More bookmobiles will cover more territory in rural America as a result of Congressional action last summer.

Congress generously appropriated $6 million to bring books to communities with populations of less than 10,000, as provided in the Library Services Act, first passed in 1956.

Originally, the act authorized $7.5 million for each of five years but Congress first provided only a shade more than $2 million. For 1957-58, President Eisenhower requested $3 million, raised by Congress to $5 million. For 1958-59, Congress raised a similar request from $3 million to $6 million.

States, in order to qualify for the library funds, have to maintain their level of spending for libraries; they match federal funds on a sliding formula. To date, 45 states have participated. (Exceptions are Delaware, Indiana, Wyoming.) The result has been a continuing increase in new libraries and the improvement of existing ones.

Merit Scholarships.—A far-reaching innovation in higher education came with the arrival, several years ago, of a nation-wide examination under the auspices of the National Merit Scholarship Corporation. Purpose is to select, on an objective basis, a roster of worthy high-school graduates who then become eligible to draw on a pool of scholarship funds accumulated through foundation grants, corporate gifts, and other sources.

The roster is much longer than the number of available scholarships, but the Merit Corporation publishes it as a kind of honor roll. In addition to the recognition given the winners, the list has also been used by other donors of scholarships to select beneficiaries.

Who are the winners and where do they come from? More information on this should be forthcoming as a result of a $31,384 cooperative research grant from the federal government (with about $10,000 more furnished by Atlanta University).

Horace Mann Bond, of the Georgia university, is trying to find out whether NMSC tests really are effective in finding potential talent, in encouraging potentially successful college students, especially from that part of the population which is underprivileged.

Based on early experience with the NMSC, some educators have been saying that the typical high-score student is male, white, from an upper-middle-class home who wants to study math or science.

Dr. Bond's application to the Department of Health, Education, and Welfare, supports this. He said, "Present devices and methods for

identifying prospective academic talent show a high incidence of 'talent' among the socially and economically privileged, and a striking absence of such promise among the socially and economically underprivileged."

Some of his figures speak for themselves. According to the 1950 census, the U. S. population contained 3,581,370 laborers; only one NMSC winner came from one of these homes. The same census shows 2,995,350 professional, technical, and kindred workers; 234 Merit scholars came from this group.

Other figures based on NMSC's figures show that 6390 librarians produced 2 scholarship winners, 69,030 college faculty members had 28 winners, 22,830 architects numbered 5 Merit scholars among their children, 165,300 judges and lawyers had 34 scholars, and clergy (excluding Roman Catholics) rated relatively highest with 13 scholars.

On the other hand, 972,300 carpenters produced seven winners, 516,360 machinists had three, and so did 1,376,910 truckers.

Dr. Bond, past president of predominantly negro Lincoln University in Pennsylvania, is concerned with the possibilities of cultural bias in tests. His application pointed out that in states maintaining segregated high schools there were no negro Merit scholars. The same holds true for predominantly negro high schools in the west and north.

Teachers' Taxes.—When the Treasury Department published its new ruling on April 5, teachers had only ten days in which to amend their 1954 income-tax returns if they sought to take advantage of the newly granted deductibility of education expenses incurred as part of their further training.

A new law, signed by the President on September 2, has reopened the 1954 tax returns for amendment for a period of 60 days. The extension expires at midnight, November 1.

Civil Defense.—Radiation and fallout have become familiar words and may become crucial problems. The Office of Defense and Civilian Mobilization has announced plans to use high schools as part of its program. Devices to measure radiation are scheduled for wide distribution, not so much to be used for detection but for the training of a million persons in their use.

Education Too Soft?—Criticism of the schools has been on the increase. Here are some samples: Students are weak in math and unable "to demonstrate a proper command of the language and to spell correctly." Prospective teachers in great numbers leave teachers colleges "unable to handle school math, let alone teach it." Or this one: "In our entrance examination in physics the results of the examination were entirely lamentable and conducive to alarm."

Source of these criticisms is not Rear Admiral Hyman Rickover, but

Russian professors of technical subjects talking about education in the homeland of Sputniks. Criticisms were taken from Russian periodicals and translated by Ivan London.

Adm. Rickover, on the other hand, in a new essay, voices his now customary criticism, then adds that our "schools have been primarily engines for Americanizing children of diverse backgrounds; for teaching all children to get along with others whose economic and cultural standards might be different; for developing the qualities which citizens in a democracy need in order to carry out their political responsibilities. These tasks our schools have accomplished excellently."

Psychologists Meet. – Several thousand psychologists met in Washington last month for their annual convention. They read learned papers to each other, presented research findings, swapped job information, made speeches.

Lee J. Cronbach, past president of APA, pointed out that the discussion of education since Sputnik "has been far less a survey of facts than an exchange of prejudices, casual observations, and statistics distorted to prove a point."

He then mentioned increasingly effective collaboration between subject-matter specialists and professionals in education, offered some generalizations which must be considered in adopting new goals or in searching for more efficient methods:

1. Education depends on what the pupil does, not on the names of his courses.

2. A learning experience has outcomes that go far beyond the knowledge tested at the end of the week.

3. No one lesson or teaching technique fits all pupils in a class.

4. Pupils profit only from instruction where they can expect rewards. Pupils who anticipate failure become slavish and unimaginative or sullen and antagonistic.

Said Dr. Cronbach: "Educational philosophies and purposes shift, but the scientific facts do not."

Supreme Court.—Convened in special session, the Supreme Court in August listened to arguments on school segregation in Little Rock. Highlights included these:

"Mr. Butler, really aren't the rights of all the negro children of Little Rock wrapped up in this case?"

Mr. Butler, representing the Little Rock school board: "Yes, sir, and their actual ability to get any kind of an education there in a public school system is wrapped up in it, in our opinion."

Later, Mr. Marshall, attorney for the National Association for the Advancement of Colored People, said: "I realize the school board has a difficult job . . . . There are just three things that were mentioned in the Court of Appeals' decision. One was that they broke lockers and instead of punishing the people that did it, they replaced the locks.

. . . . It seems to me that there is no solution to this problem, recognized as a difficult problem, if the only possible solution is to put the negro kids out of school.

"I do not agree that is the only solution. The record in this case will bear that out. And so it seems to me that whether or not this court goes into the merits of the case, certainly these negro youngsters and the others that are involved in the class action are entitled to the most affirmative relief possible out of this court before school opens . . . ."

Mr. Rankin, Solicitor General for the United States, stated the issue this way: "It seems to me that we are now at the crossroads in this important question. The people of the country are entitled to a definitive statement from this court as to whether or not force and violence in opposition to the court's decision are grounds for not merely getting a modification to try to adapt to real problems after they have exhausted their remedies, but to actually hold everything up and go backward a step—in other words, taking everybody out that you have tried to put in.

"And the basic question, all there really is in the case, is whether or not we stand as a government of the United States in all its power and strength as well as in its consideration of the real difficulties and problems that the people have in trying to carry out court orders. We insist that there must be a rule of law, that we will not abandon for a moment the heritage that has been delivered up to us by the efforts of man over the centuries."

Finally, Mr. Butler offered this rebuttal (in part):

"The school board has recognized from the beginning, and still does . . . that the ultimate decision of any question of this kind is a question of law and that the final decision of the United States Supreme Court must stand . . .

"We say, though, that . . . under the words of the decision itself, we should be given ample time within which to try to resolve these problems in an atmosphere of calm, rather than of hysteria . . . .

"Can it be logically argued that the ruling of this court can be carried out, as this court said it should, in an effective manner when schools are closed, or, if operated at all with armed troops parading not only the ground, but the halls and classrooms themselves? Patience and forbearance for a short while might save our public-school system in Little Rock, which was once the pride of our community . . . .

"Only this Court has the answer. One answer leads to the immediate destruction in our best judgment of our public-school program in Little Rock, depriving white and negro students alike of their search for an education. The other answer, without depriving these petitioners of any tangible rights or benefits, gives a recess from turmoil and the hope of acceptable solutions.

"This is the answer we prayerfully seek." •

• Educational News •

CHANGES IN SUPERINTENDENCIES:

Cedar Rapids, Ia.: **Arnold W. Salisbury,** formerly superintendent at Galesburg, Ill., has succeeded **Clyde Parker,** now assistant superintendent at Oak Park, Ill.

Newton, Mass.: **E. N. Dennard,** formerly superintendent at Waco, Tex., has succeeded **Harold B. Gores,** now president of the Educational Facilities Laboratories of the Ford Foundation.

Houston, Tex.: **John W. McFarland,** formerly superintendent at Amarillo, Tex., is now superintendent. He has been succeeded at Amarillo by **Robert R. Ashworth,** formerly of Corsicana, Tex.

New Rochelle, N. Y.: **Herbert C. Clish,** formerly superintendent at Lynbrook, N. Y., has succeeded **Donald K. Phillips,** now at Syosset, Long Island.

Anchorage, Alaska: **Hillis K. Idleman,** formerly township superintendent at Wayne, Pa., is the new superintendent.

East St. Louis, Ill.: **Leland G. Osborn** has resigned.

Kingston, Pa.: **John B. Kennedy** has retired.

Ashtabula, Ohio: **E. I. Gephart** has resigned.

Mansfield, Ohio: **John S. Rinehart,** formerly of Skokie, Ill., has succeeded **Robert E. Wilson,** now a member of the faculty at Temple University.

Minot, N. D.: **James F. Slocum** has succeeded **Paul A. Miller.**

Berkeley, Calif.: **Carl H. Wennerberg,** formerly of Whittier, Calif., has replaced **Thomas L. Nelson,** resigned.

COLLEGE PRESIDENTS:

West Virginia University, Morgantown: **Elvis J. Stahr, Jr.,** vice-chancellor at the University of Pittsburgh, Pa., has been appointed successor to **Irvin Stewart** on his retirement in February next year.

Rutgers University, New Brunswick, N. J.: **Lewis Webster Jones,** president since 1951, has resigned to become president of the National Conference of Christians and Jews, New York City. He succeeds **Everett R. Clinchy,** president 30 years, who resigned to become administrative president of the World Brotherhood organization.

TEACHER-TRAINING INSTITUTIONS:

University of Wisconsin, Madison: **Gail F. Farwell,** formerly of Ohio State University, has succeeded **A. H. Edgerton,** retired, in the school of education. **Paul W. Eberman** has been named associate dean of the school of education, succeeding **Richard Siggelkow,** now dean of students at the University of Buffalo, N. Y.

Teachers College, Columbia University, New York, N.Y.: **Mozzell C. Hill,** formerly of Atlanta, Ga., is now professor of education.

University of Texas, Austin: **David G. Ryans,** formerly of the University of California, Los Angeles, is now chairman of the educational psychology department, succeeding **O. B. Douglas.**

Trinity University, San Antonio, Tex.: **Maude B. Davis,** member of the University staff 35 years, has retired as professor of education.

Central College, Fayette, Mo.: **Paul A. Grigsby,** superintendent at Granite City, Ill., since 1932, has been named associate professor of education.

University of Miami, Coral Gables, Fla.: **James J. Jones,** formerly at the University of Virginia and executive secretary of the Virginia School Boards Association, has been named professor of education.

California State Polytechnic College, San Luis Obispo: **Harry Scales,** formerly of the Arizona

State Department of Education; **Bernice Bingham Loughran,** Redwood City; and **Edward Ernatt,** district superintendent at Fresno, Calif., are new additions to the education department faculty.

University of Missouri, Columbia: **Frank Heagerty,** superintendent at Lebanon, Mo., for 15 years, has been named director of the laboratory schools and associate professor of education.

OTHER CHANGES AND APPOINTMENTS:

A. Sterl Artley of the University of Missouri has been named president-elect of the International Reading Association. He will serve as president during 1959-60.

Homer Kempfer, executive director of the National Home Study Council, has resigned to join the staff of the International Cooperation Administration. He will be chief adult education advisor to the Government in India in New Delhi.

RECENT DEATHS:

Charles E. Friley, president-emeritus of Iowa State College, Ames.

Peak Enrolment

A NEW all-time peak enrolment of approximately 45 million youngsters in the nation's schools and colleges was predicted for this school year by Lawrence G. Derthick, U. S. Commissioner of Education, just before school opened in September. This enrolment will be about 1,750,000 higher than the previous record enrolment of 43,195,000 last school year.

Public and private elementary-school enrolment was expected to total about 31,793,000, a gain of more than a million over last year. A gain of almost half a million was expected in high school, with the total enrolment reaching 8,880,000. Colleges and universities were expected to enrol about 173,000 more students this year than last, or a total of 3,623,000 this year.

The Office of Education estimated that 90,300 men and women will enter the teaching profession for the first time this year and that 23,000 former emergency teachers will have attained qualified status. This will leave an estimated shortage of 132,000 teachers which will be met by a return to teaching of former teachers, the employment of emergency teachers, and, in part, by too-large classes, Dr. Derthick stated.

New University

CONSTRUCTION of a new university in Florida was started in September with groundbreaking ceremonies at Tampa. To be known as the University of South Florida, the new four-year state institution will enrol its first class in September 1960.

The university was authorized by the 1955 session of the Florida legislature and created by the State Board of Control in 1956. It will be constructed on a 1700-acre site north of Tampa. Initial construction will include five buildings under an $8,602,000 appropriation by the 1957 legislature. A freshman class of 1500 is expected to enrol when the college opens in September 1960. A class per year will be

added until the full degree-granting program is in operation.

Juvenile Delinquency

THE NEA has announced plans for an extensive project designed to help teachers and administrators deal with juvenile delinquency. William C. Kvaraceus, professor of education at Boston University, has been appointed director of the project.

Lyle W. Ashby, NEA secretary for instructional services, announced that in carrying out this project the NEA will seek to capitalize on projects now going on, to test opinions on them, to distill research findings and attempt to identify the good practices, and to make recommendations that will contribute to the welfare of both the teachers and the children.

The Ford Foundation also recently announced grants to two institutions to help combat juvenile delinquency. One grant of $700,000 will enable the University of Southern California to establish a youth-studies center at Los Angeles. The other grant of $740,000 will support a similar center at Syracuse University in Syracuse, N. Y. The two centers are expected to bring the universities' resources for training and research to the support of comprehensive community programs of prevention and control.

WCOTP to Meet Here

THE 1959 annual assembly of the World Confederation of Organizations of the Teaching Profession (WCOTP) will be held in Washington, D. C., in 1959. This will be the first meeting of the world organization in the U. S. since the groundwork for the organization was laid 12 years ago in Endicott, N. Y.

Announcement of the 1959 meeting was made at the 1958 assembly in Rome in August, attended by educators from 60 nations. Fifteen new member organizations from ten countries were accepted into the organization at the meeting.

Reports on the expanding nature of the organization's program was a notable feature of the meeting. This program includes a Latin-American seminar on elementary education to be held during this academic year, the authorization of an Afro-Asian committee, and the successful operation of an African committee assisting teachers in newly developing nations there.

Sir Ronald Gould of England was reelected president of the organization.

Education Week

REPORT Card U.S.A." will be the theme of the 1958 American Education Week, to be observed November 9-15. This 38th annual observance is being sponsored by the NEA, the American Legion, the U. S. Office of Education, and the National Congress of Parents and Teachers.

Daily topics under the main theme for the week are: Character Building (Sunday); Responsible Citizenship (Monday); Education

and Survival (Tuesday); The Curriculum (Wednesday); The Teacher (Thursday—National Teachers Day); Developing Talents (Friday); and Community Teamwork (Saturday).

Suggestions on activities for local schools and a packet of publicity materials are available from the NEA headquarters, 1201 16th St., N.W., Washington 6, D. C.

Mental Health Project

PERSONAL qualities that make for success in teaching is the subject of a five-year investigation now under way in the University of Texas.

The pilot project, the first of its kind in the U. S., is designed to develop teacher-education programs which will foster sound mental health on the part of teachers and pupils. It is being financed by the National Institute of Mental Health.

L. D. Haskew, dean of the college of education, states that the project will "enable us to demonstrate what can be done to produce teachers who can protect and strengthen the mental health of pupils."

New Award

A NEW "Principal of the Year" award has been announced by Arthur C. Croft Publications.

Nominations for this award, honoring American school principals, will be made by classroom teachers only. Nominating statements of 500-1000 words will be accepted until November 1. The winning "Principal of the Year," selected by a panel of judges chosen from leaders in the profession, will be announced in January.

More information may be obtained from Arthur C. Croft Publications, 100 Garfield Ave., New London, Conn.

Teacher-Exchange

MORE than 600 teachers from the United States and 42 other countries will take part in the 1958-59 teacher-exchange program, according to a recent announcement by Lawrence G. Derthick, U. S. Commissioner of Education.

DATES OF THE MONTH:

Oct. 5-9, Association of School Business Officials of the U. S. and Canada, New York City.

Oct. 10-15, Department of Rural Education, NEA, and Division of County and Rural Area Superintendents, NEA, Minneapolis, Minn.

Oct. 20-24, National Safety Congress, Chicago, Ill.

Oct. 23-25, Conference for the Advancement of Science and Mathematics Teaching, Austin, Tex.

DATES OF THE COMING MONTHS:

Nov. 2-3, Association of Urban Universities, Omaha, Neb.

Nov. 5-7, National Association of Public School Administrators, Cincinnati, Ohio.

Nov. 9-15, American Education Week.

Nov. 16-20, National Society for Crippled Children and Adults, Dallas, Tex.

Nov. 27-29, National Council for the Social Studies, San Francisco, Calif.

Dec. 8-10, National Conference on Fitness for Secondary-School Youth, Washington, D. C.

New Educational Materials

The Revolution in Education. Mortimer J. Adler and Milton Mayer. Chicago: University of Chicago Press, 1958. Pp. viii + 224. $3.75.

This book attempts to locate the major differences in theory and principle which underlie the current controversies about American education. It does not, as its authors point out, seek to find the right answers; it is trying to find the right questions.

The authors discuss the basic philosophic differences on educational issues—between positions that can be called aristocratic or democratic, realistic or idealistic, traditional or modern.

After a historical section dealing with education in this country, the authors come to the present and pinpoint a number of basic questions that must be asked, such as: What is education? In an industrial democracy such as ours, what should education be? What should be its objectives? What changes must be made in its materials and methods? How much should be offered, and to whom? These questions are provocatively presented in this book.

Moral Values in Public Education. Ellis Ford Hartford. New York: Harper & Brothers, 1958. Pp. xi + 338. $4.00.

Subtitled: "Lessons from the Kentucky Experience," this book presents tested answers to the controversial question of what responsibility public schools should assume for character education.

The author, who has been actively associated with the program of emphasis on the development of moral and spiritual values in public education, popularly termed "the Kentucky Movement," presents here a wide variety of practical accounts and suggestions drawn from the Kentucky experience on how these values can be taught. The practical materials are set within an excellent historical and theoretical framework.

Legal Aspects of School Board Operation. Robert R. Hamilton and E. Edmund Reutter, Jr. New York: Bureau of Publications, Teachers College, Columbia University, 1958. Pp. xi + 199. $4.95.

The basic legal rights, duties, privileges, and responsibilities of those involved in any way with the public-school enterprise are covered in this nontechnical book.

The material is organized according to specific problem areas, and the various sources of the law are cited and discussed as they relate to these areas.

Among the areas covered are the authority of school boards in relation to pupil personnel, to curriculum, to employed personnel, to school property, and to school funds; contractural authority of school boards; liability of school districts and board members; and school board procedure.

Dr. Hamilton is dean of the college of law, University of Wyoming. Dr. Reutter is professor of education at Teachers College.

Research in the Three R's. Edited by C. W. Hunnicutt and William J. Iverson. New York: Harper & Brothers, 1958. Pp. xvi + 446. $3.50.

The 78 articles included in this volume are those selected as the key research reports in the thousands of investigations in the three

R's evaluated by the editors. They were the ones that appeared to be most significant and most promising of assistance to classroom teachers.

The reports have been adapted and abridged to conserve space so that the maximum number of reports could be included. The volume overcomes efficiently the barriers which have heretofore stood in the way of adequate study of these research findings—the very abundance of the research, the length of the reports, and the unavailability of much of the material.

The final part of the book is devoted to a discussion of needed research yet to be done in the field.

Science Teaching in Secondary Schools. John S. Richardson. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1958. Pp. xxi + 385. $8.85.

"School science," says Dr. Richardson, "should provide experience far beyond the recapitulation of facts and principles. The science teacher should set as his goal the development of scientific behavior in young people."

In this text, the author attempts to combine the philosophic and practical aims of science teaching. The volume includes sections on methods and procedures, evaluation, preparing teaching plans, student guidance, facilities, and materials and audio-visual resources. A chapter is also devoted to growing professionally as a science teacher.

Successful High School Teaching. Sam P. Wiggins. Boston: Houghton Mifflin Company, 1958. Pp. xii + 379. $5.00.

This book is designed as more than a book in methods. It scans the broad horizon of success in teaching in junior- and senior-high schools, giving attention to the teacher's responsibilities in the classroom, school, and community.

As Herold C. Hunt states in his introduction to the book, "It sets as criterions for effective education that the secondary school must serve the educational needs of all youth in their challenging variety, must function closely with many of society's other agencies, and must provide for intelligent adjustment to social change while making optimum use of our social heritage."

Dr. Wiggins is a teacher of teachers at George Peabody College.

OTHER MATERIALS RECEIVED:

ELEMENTARY

Science Workbook. Grade 1, 2, and 3. Victor C. Smith. Chicago: J. B. Lippincott Company, 1958. Pp. 62 each. $.64 each.

Student Teaching in the Elementary School. (Second Edition.) James B. Burr, Lowry W. Harding, and Leland B. Jacobs. New York: Appleton-Century-Crofts, Inc., 1958. Pp. ix + 459. $5.75.

Guidebook for Elementary Student Teachers. Isabel Miller, George E. Dickson, and Loren R. Tomlinson. New York: Appleton-Century-Crofts, Inc., 1958. Pp. 183. $2.25.

A Book of Descants. Willys Peck Kent. New York: Vantage Press, Inc., 1958. Pp. 94. $3.00. Part-singing planned for grades five through eight.

Elementary-School Science and How to Teach It. (Revised Edition.) Glenn O. Blough, Julius Schwartz, and Albert J. Huggett. New York: The Dryden Press, 1958. Pp. xvi + 608. $6.75.

SECONDARY

Basic Electricity. Abraham Marcus. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1958. Pp. xv + 493. $4.85.

Literature for Life. Arno Jewett, A. H. Lass, and Margaret Early. Boston: Houghton Mifflin Company, 1958. Pp. x + 726. $4.20. A Reading for Enjoyment book.

Modern Methods in Secondary Education. (Revised Edition.) Jean D. Grambs, William J. Iverson, and Franklin K. Patterson. New York: The Dryden Press. Pp. xvi + 700. $5.90.

Remington Rand 99 Printing Calculator Course. Includes "Methods of Teaching the Calculator that Prints" by A. E. Klein, Machine Station Manual, Student Workbook, and wall chart. Available from Remington Rand Division, Sperry Rand Corporation, 315 Fourth Ave., New York 10, N. Y.

College

Evaluation in the Basic College at Michigan State University. Edited by Paul L. Dressel. New York: Harper & Brothers, 1958. Pp. viii + 248. $4.00.

How to Take Examinations in College. J. N. Hook. New York: Barnes & Noble, Inc., 1958. Pp. viii + 180. $1.25, paperbound.

An Introduction to American Education. (Second Edition.) John T. Wahlquist and Patrick J. Ryan. New York: Ronald Press Company, 1958. Pp. xi + 477. $5.00.

Learning to Listen; A Handbook for Music. Grosvenor Cooper. Chicago: University of Chicago Press, 1958. Pp. vii + 167. $3.75.

Learning to Look: A Handbook for the Visual Arts. Joshua C. Taylor. Chicago: University of Chicago Press, 1958. Pp. x + 152. $3.25. A text in art appreciation.

Guidance

Your Career as a Librarian. Dilla W. MacBean. Chicago: Encyclopaedia Britannica, Inc., Educational Department, 1958. Pp. 18. Single copy free.

The Dairy Industry. H. F. Judkins. Agriculture. E. V. Walton and Jarrel D. Gray. **The Poultry Industry.** A. William Jasper. Cambridge, Mass.: Bellman Publishing Company, 1958. Pp. 17, 32, and 36. $1.00 each. Three titles in the Vocational and Professional Monographs series.

Your Career Opportunities in Pharmacy. Mary June Burton. A 31-page pamphlet available free from the Educational Services Department, Chas. Pfizer & Co., Inc., 800 Second Ave., New York 17, N. Y.

General

Studying the Individual Pupil. Verna White. New York: Harper & Brothers, 1958. Pp. xvi + 238. $4.00. One of the Exploration Series in Education.

Legal Status of Young Adults; Under 21: Your Rights and Duties. Parnell J. T. Callahan. New York: Oceana Publications, Inc., 1958. Pp. 96. $2.00, cloth; $1.00, paper.

Using Committees in the Classroom. Louis E. Hock. New York: Rinehart & Company, Inc., 1958. Pp. viii + 55. $1.00. One of the new Rinehart Education pamphlets.

Seven Studies: School Boards Examine Some Current Issues in Public Education. 1958. Pp. 76. Available from National School Boards Association, Inc., 450 E. Ohio St., Chicago 11, Ill.

Chronicles of Americana. Madison, Wis.: Americana Press, 1958. A series of pamphlets highlighting the American environments, traditions, development, and heritage; effectively and interestingly presented. Titles include: "Early Rails," "The Civil War at a Glance," "The American Revolution," "The Supreme Court of the United States," "Great Presidents," "Early American Recipes," "Documents of Freedom."

AUDIO-VISUALS

Printing—A Future Unlimited. A 16mm sound, color film. Available from Education Council of the Graphic Arts Industry, 5728 Connecticut Ave., N. W., Washington, D. C. $250.

Russian Life Today—Inside the Soviet Union. A 21-minute 16mm film. Available from Bailey Films, Inc., Hollywood, Calif. Rental: $5, b & w; $10, color. Purchase: $100, b & w; $195, color.

Heroes of Greek Mythology. A series of six filmstrips in color: "Ulysses in the Cave of the Cyclops," "Jason and the Golden Fleece," "The Golden Apples of the Hesperides," "Orpheus and Eurydice," "Pegasus and Bellerophon," and "Daedalus and Icarus." Available from The Jam Handy Organization, 2821 E. Grand Blvd., Detroit 11, Mich. $32.75 for the series. $5.75 each filmstrip.

The Life and Times of a Balloon, Al in the Hospital, Bridges, Birthday Present to America, and **At the Service Station.** Five films available from Robert Disraeli Films, Box 343, Cooper Station, New York 3, N. Y. $100, $120, $60, $75, and $60, respectively.

The Count Down; A Study of World Disarmament and **The Challenge to American Education.** Two b and w 16mm films originally presented on National Education Television, now available from Audio-Visual Center, Indiana University, Bloomington. Rental, $4.75 and $8.00.

Send for this brand NEW McKNIGHT

GUIDANCE PUBLICATIONS CATALOG

Describes over 25 interesting practical and educational guidance books

new books

- College Know-How
- The Bobby G
- Growing Up
- You and Your Future
- Exploring Occupations
- Success in the World of Work
- You and Your Work Ways
- Suggestions to the Teacher of Occupations

other typical books

- Selecting an Occupation
- Understanding Ourselves
- As Others Like You
- Tests on Social Usage
- Guidance in Elementary Schools

McKnight & McKnight Publishing Co.
Dept. 640, Bloomington, Illinois

Name .....
Address .....
City..... State.....

THE EDUCATION DIGEST STAFF

LAWRENCE W. PRAKKEN, Editor and Publisher
JEROME C. PATTERSON, Managing Editor
WARREN R. GOOD, Associate Editor
OLIVER E. HANNINEN, Assistant Editor
MARGUERITE D. TURNER, Assistant Editor
BARBARA N. LEAKE, Circulation Manager

EDITORIAL ADVISORY BOARD

PAUL BRIGGS, Superintendent of Schools, Parma, Ohio
OMER CARMICHAEL, Superintendent of Schools, Louisville, Kentucky
ARTHUR F. COREY, Executive Secretary, California State Teachers Association, San Francisco
WILLIAM A. EARLY, Superintendent of Schools, Savannah, Georgia
E. GLENN FEATHERSTON, Assistant Commissioner for State and Local School Systems, U. S. Office of Education, Washington, D. C.
HAROLD C. HAND, Professor of Education, University of Illinois, Urbana
L. D. HASKEW, Dean, College of Education, University of Texas, Austin
H. GORDON HULLFISH, Professor of Education, Ohio State University, Columbus
HOWARD Y. MCCLUSKY, Professor of Educational Psychology, University of Michigan, Ann Arbor
JAMES E. RUSSELL, Secretary, The Educational Policies Commission, Washington, D. C.
DEAN M. SCHWEICKHARD, Commissioner of Education, State Department of Education, St. Paul, Minnesota
GEORGE E. SHATTUCK, Principal, The Norwich Free Academy, Norwich, Connecticut
NILA B. SMITH, Director, The Reading Institute, New York University, New York City
HAROLD SPEARS, Superintendent of Schools, San Francisco, California
RUTH G. STRICKLAND, Professor of Education, Indiana University, Bloomington

MEMBER OF

EDUCATIONAL PRESS ASSOCIATION OF AMERICA

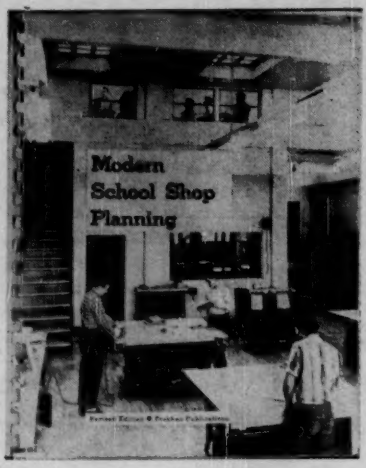
Second-class mail privileges authorized at Ann Arbor, Michigan, and additional entry authorized at Oxford, Indiana. Printed in the United States of America. The annual index is included in the May issue. The contents of THE EDUCATION DIGEST are listed in the *Education Index*. Advertising Sales Offices: Eastern—Macintyre-Simpson & Woods, 101 Park Avenue, New York 17, N. Y., Lexington 2-0020. Mid-West—Prakken Publications, 53 West Jackson Blvd., Suite 760, Chicago, Ill.

Subscription price, $5.00 a year; 2 years, $9.00; 3 years, $12.00 (Foreign, $5.50 a year); single copies, 60c. Published monthly, September through May, by THE EDUCATION DIGEST, 330 Thompson St., Ann Arbor, Mich.

BUILDING A NEW SCHOOL?

Here's Help in Planning the Shop Area

Modern School Shop Planning



Enlarged and Revised Edition

$3.85

184 Pages

200 Illustrations

The only book on the market that completely covers the planning problems of school shops—unit shops as well as general shops.

As a school administrator, you will find that sections devoted to standards of physical facilities of school shops will alone be of invaluable help to you and your architect in helping build a shop that will satisfy you, your staff, and the public. Safety factors in shop planning and requisition hints are also included, as well as principles of purchasing for the shop area. Profusely illustrated with pictures of new shops and suggested shop layouts.

PRAKKEN PUBLICATIONS

330 Thompson Street Ann Arbor, Michigan

PRAKKEN PUBLICATIONS, Ann Arbor, Mich.

Send me a copy of MODERN SCHOOL SHOP PLANNING

☐ $3.85 enclosed ☐ Please bill me ☐ Bill my school

Name .....

Address .....

.....